

The Mining Journal

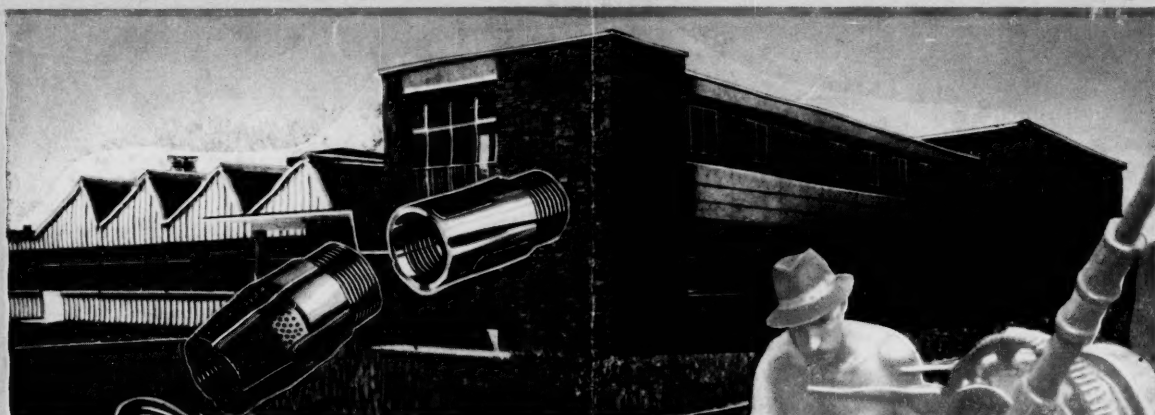
Established 1835

Railway & Commercial Gazette

Vol. CCXXX No. 6125

LONDON, JANUARY 9, 1953

PRICE 8d



DIADRIL

DIADRIL is the result of research and field tests throughout the world. It is backed by the manufacturing resources of two of the largest diamond toolmaking companies in the United Kingdom and United States. The main process of manufacture is covered by U.S. Patent 2210039 and British Patent 540392.

Before being manufactured in England, the American and Canadian factories had been producing large quantities for several years. Our production is backed by this wealth of accumulated experience. Regular interchange of information and personnel has ensured the prompt incorporation of all improvements in technique.

Diadril bits are now produced in Britain's largest and most modern factory devoted entirely to industrial diamond products.

L. M. VAN MOPPES & SONS (DIAMOND TOOLS) LTD • BASINGSTOKE • HAMPSHIRE
TELEPHONE: BASINGSTOKE 1240 • TELEGRAMS: DIATIPT, BASINGSTOKE

CORE Recovery

We specialize in mineral drilling
where maximum core recovery
is essential.

JOHN THOM LIMITED

Bore holes for water, minerals and proving of strata

CANAL WORKS, PATRICROFT,

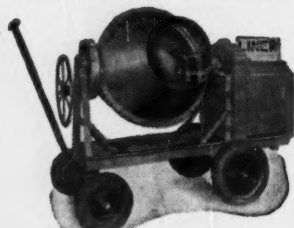
NEAR MANCHESTER

Telephone : ECCLES 2261-3



LINER

MACHINES ARE SPEEDING THE WORK IN MANY COLLIERIES



Our illustrations show above, the 3½T Junior Concrete Mixer and below, the No. 2 Portasaw.

Write for full details of any LINER machine to-day.

THE LINER CONCRETE MACHINERY CO., LTD.
321 Park Road, Gateshead, 8
Tel.: 72501 Grams: Liner, Gateshead

London Office:
321 Abbey Orchard Street, S.W.1
Also at: Birmingham, Manchester,
Liverpool, Nottingham, Bristol,
Leeds, Glasgow, Dundee, etc.

Vacancies for suitable distributors
and stockists. Enquiries invited

Please send full details of items marked X below

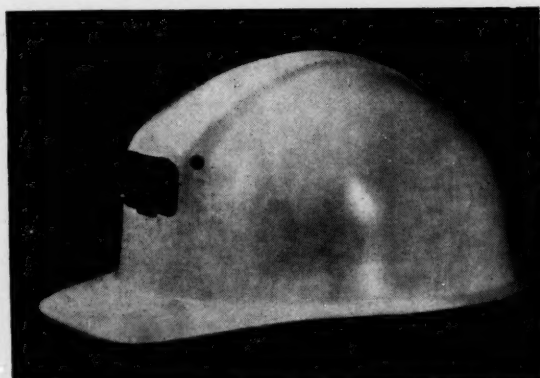
- | | |
|-----------------|------------------|
| 1. JUNIOR MIXER | 3. CHAIN SAWS |
| 2. PORTASAWS | 4. STONE BREAKER |

Name.....
Address.....

THE LINER CONCRETE MACHINERY CO. LTD., 321 Park Rd., Gateshead, 8

There are many uses in Collieries and Mines for LINER portable machines for mixing concrete, cutting timber in awkward places, and generally saving time and labour.

OTHER LINER MACHINES include Hopper Fed Tilting Drum and Non-Tilt Mixers, Vibrators, Stone Breakers, Hoists, Concrete Moulds, Timber Saws for felling, ripping, and cross-cutting.



TOUGH and MOISTURE-PROOF

The special features of this helmet are toughness with complete resistance to moisture and high resistance to chemicals. The shape has been designed to give increased comfort and improved appearance. It is generally supplied in white, but it can also be finished in black. Lamp brackets are optional.

CROMWELL MINERS' HEADWEAR

Obtainable direct from:

HELMETS LIMITED, WHEATHAMPSTEAD, HERTS.



The Smit resetting facilities are a particular feature of our Service. We rebuild part-worn bits as new, in a quick turn round of a few days only and at a most economic cost. If full use is made of this Service, bit-cost per foot will be maintained at a minimum outlay.

For Important work you are safe with Smit's diamond drill bits

You can bring any drilling problem to Smit's in the sure knowledge that the answer will be found—the best, most economical and profitable answer in terms of modern drilling practice. Smit's bits are a means to your drilling end. It is because we deal with our customer's problems on that basis we achieve a reputation for reliability and efficiency in our product. We give you the bits that will yield the most satisfactory results to you. That is Smit service. Smit's range of drill bits and reamers will meet most drilling problems, but if anything unusual calls for something outside the range, it is evolved to provide your need. Your work is important. We appreciate that and treat it accordingly.

J. K. SMIT & SONS (DIAMOND TOOLS) LTD.

Head Office: 22-24, Ely Place, Holborn Circus, London, E.C.1

Telephone: ★ HOLborn 6451

and at Coventry: Holyhead Chambers, Holyhead Road (COventry 5215)

Manchester: 2, St. John Street (BLAckfriars 0443) Works: Colwyn Bay (Colwyn Bay 2062 and 2291)

LONDON & SCANDINAVIAN METALLURGICAL CO LTD

Manufacturing Metallurgists

Buyers for consumption
in own and associated works
in U.K. and abroad of

ORES AND RESIDUES containing

- WOLFRAM
- MOLYBDENUM
- VANADIUM
- CHROME
- MANGANESE
- COLUMBIUM
- TANTALUM
- TITANIUM

39 HILL ROAD LONDON SW19 Telephone WIMbledon 6321 Telegrams Metallurg London



We make *sure*

The numerous critical stages in making good industrial brake linings are our exclusive worry. If there were ten times as many the fact would remain that you, the user, are interested only in the final result. But because you may sometimes wonder why DON Industrial Brake Linings are just that little bit better, we are taking you behind the scenes... **Here, we are making sure in the drawing office that we are in step with the most modern developments in design.** An obvious thing to do? Precisely... the pains which we take over even the most obvious things mean that you can always be sure of DON.

Fit



BRAKE & CLUTCH LININGS

to be *sure*

DEPOTS AT

(Towns & Telephone Nos.)

BELFAST ...	25103
BIRMINGHAM 4.	
Aston Cross	1447
BLACKBURN ...	6581
BRISTOL ...	27214
CARDIFF ...	27026
CARLISLE ...	589
CHESTER ...	21280
COVENTRY Coventry	64914
EDINBURGH 1. Central	4234
EXETER ...	3813
GLASGOW C.2. Central	4595
HULL ... Central	52072
LEEDS 3. ...	20664/5
LEYTON Leytonstone	6068
LIVERPOOL 1.	
Royal 1251 and 5202	
MANCHESTER 3.	
Blackfriars	0596
NEWCASTLE-ON-TYNE 2.	
27142 and 27942	
NOTTINGHAM ...	43646
SHEFFIELD 1. ...	25529
SOUTHAMPTON ...	71276
STOKE-ON-TRENT ...	44021
WIMBLEDON ...	4248/9

Republic of Ireland: DUBLIN
35 Westland Row 66597

IBL/8



Also manufacturers of:—
Grooved Roko Belting
Roko Spindle Tapes
Karmal Engine Packings

SMALL & PARKES LIMITED

MANCHESTER 9

LONDON: 76 VICTORIA ST., S.W.1

Protection plus . . .



Drum Stuffed, Greased
Green Semi-Chrome
Uppers, Leather Lined
Vamps, Felt Lined Tongues, External
Steel Toecaps, Leather Soles screwed,
stitched and hobbled, Lip Toe Plates,
Leather Heels, Steel Heel Tips.

TOTELECTORS Safety Boots and Shoes are
manufactured to British Standards Institute
Specification.

TOTELECTORS (Regd.)
SAFETY BOOTS AND SHOES

These new style armoured mining boots have been designed specially for the protection of the feet. They stand up to surprisingly heavy blows and wear longer by virtue of the anti-abrasion qualities of the external steel toecaps.

WILKINS & DENTON LTD.

51 & 52 Woburn Place, London, W.C.1

Telephone: LAngham 7061

MINE SURVEYORS

... here is a NEW instrument, WATTS Microptic
Transit is specially designed for use underground

Write for list M.G.J./47 to

HILGER & WATTS LTD.,
WATTS DIVISION

48 Addington Square, London, S.E.5, England

Member of the Export Marketing Company—S.C.I.E.X.

MANGANESE • CHROME • TUNGSTEN

ANTIMONY • TANTALITE • COLUMBITE

ZINC • LEAD • COPPER



Philip Brothers, Inc.

70 PINE STREET, New York 5, N. Y. Cables: PHIBRO N.Y.

AMSTERDAM • LONDON • MONTREAL • TOKYO • BUENOS AIRES

MONTEVIDEO • LA PAZ • LIMA • CALCUTTA

ORES

METALS

FERRO ALLOYS

Britannia

TUBULAR ALKALINE BATTERIES

FOR ELECTRIC LOCOS

*Long life and
low maintenance cost*

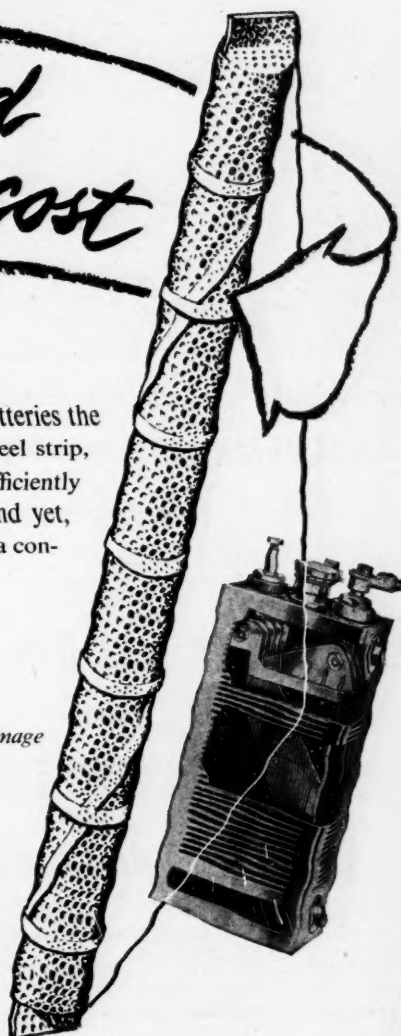
IN these remarkable batteries the active material is contained within a tube made of nickel-plated steel strip, spirally wound, and reinforced by seamless steel rings. This tube is sufficiently flexible to accommodate itself to the expansion of the material and yet, being a closed tube, retains the material when it contracts. Result: a considerably increased working life for the battery.

SIX OTHER IMPORTANT ADVANTAGES

- 1 Very light in weight, and occupies small space
- 2 Steel construction renders it immune from vibration effects
- 3 It may be left standing in any state of charge or discharge without damage
- 4 It takes the heaviest overloads without damage
- 5 Simple and inexpensive maintenance
- 6 Exceptional mechanical strength

WHEN YOU REPLACE

Replace with Britannia—and make a definite saving in running costs. Our engineers are always ready to call and advise on your battery requirements. Perhaps you need new batteries now?



A. 103

Britannia

STEEL ALKALINE BATTERIES

SHAFT SINKING

BY ANY METHOD
ANYWHERE in the WORLD

The **C**EMENTATION
COMPANY LIMITED

BENTLEY WORKS, DONCASTER.

Telephone: DON 54177/8/9

**WOLVERHAMPTON DIAMOND
DIE & TOOL Co. Ltd.**

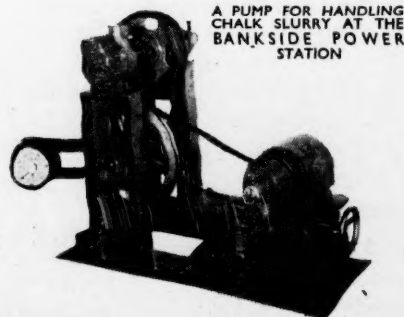
BOARTS
and
**INDUSTRIAL
DIAMONDS**
Exporters

**11 HATTON GARDEN,
LONDON, E.C.1**

Telephone: HOLborn 3017 Cables: Pardimon, London

COMET

Very Powerful Positive Action,
Slow Revving, Self Priming
Totally Reversible Pumps



SUPREME for SLURRIES and HEAVY VISCOUS MATTERS

**THE COMET PUMP & ENGINEERING
COMPANY, LIMITED**

JOHNSON ROAD, WEST CROYDON

Telegrams: Comet, Croydon. Telephone: Thornton Heath 3816



PITMASTER

UNDERGROUND BELTING

by



Engineers in Rubber

B.T.R. Pitmaster is the new high tensile conveyor belt for trunk and drift installations. Anticipating the need for stronger and stouter belting to stand up to the high tensile pull of drive heads of 250/300 H.P. and over, the B.T.R. Company has developed this herculean belt along traditional and well proved lines. It is the complete answer to the problems of heavier loads and increasing distances between centres.



BRITISH TYRE & RUBBER CO. LTD.
HERGA HOUSE, VINCENT SQUARE, LONDON, S.W.1



HIRE A MARION SHOVEL OR DRAGLINE

... and get really BIG output!

Marion Shovels and Draglines from
2-5 cu. yd., capacity are available for hire

MARION SHOVEL HIRERS LTD.
HUNSBURY WORKS, NORTHAMPTON

Telephone: Northampton 5262

London Office: 11 Berkeley St., W.1 Mayfair 9090

The Mining Journal

Established 1835

Vol. CCXXX No. 6125

LONDON, JANUARY 9, 1953

Price 8d

CONTENTS

Notes and Comments	37	Company News and Views	49
From Our Australian Correspondent	39	Wankie; Ashanti; Copperbelt Activities; Tronoh-Malayan Companies.	
The Exploitation of Hungarian Mineral Resources	40	Company Shorts	50
Material Handling Plant for Bauxite Ore Carrier	41	Company Meetings and Announcements	51
Tin Mining in Indonesia	42	Anglo American Corporation of South Africa Ltd.; Rand Selection Corporation; Central Mining—Rand Mines.	
Machinery and Equipment	44		
Metals, Minerals and Alloys	45		
The Mining Markets	48		

Published by The Mining Journal Ltd. at 15, George Street, London, E.C.4.

MANsion House 5511

Subscription £2 per annum

NOTES AND COMMENTS

The Commonwealth and Convertibility

The difficulty in sharing the British Government's obvious satisfaction with the results of the recently held Commonwealth Conference arise from the paucity of information as to how, in practice, the sterling area within the Commonwealth intends to advance by "progressive stages" towards convertibility. From the viewpoint of *Mining Journal* readers, this whole problem has such vital implications, alike for the commodity markets and for the future of the gold mining industry that some attention in these columns to the possible outcome seems inescapable.

There is at this stage every justification for maintaining secrecy. The Commonwealth Ministers must return to consult their Cabinets, and the new American Administration, not yet in office, must be sounded on its reactions to the scheme, while at the same time probings must be made in Europe. When these preliminary soundings have been made and providing that the blueprint for convertibility which emerged from the Conference does not require substantial modification, a general announcement should be forthcoming. No one would expect, of course, such a document to describe the plan in detail but it should be possible to put the general public in the picture by stating what, in the view of the Commonwealth Ministers, are the principle milestones on the road to convertibility and what can be considered as a reasonable timetable for advancing from one stage to the next.

Perhaps the major premise, on which the advance by progressive stages towards convertibility is based, is that the favourable trading results recently achieved by the sterling area with Western Europe and with other non-dollar but non-sterling countries can be maintained or even bettered. But how far and to what extent this premise would remain valid, without the introduction of special safeguards, after convertibility, is a problem the correct solution of which is essential to the introduction of the scheme. At present the pattern of trade within the framework of the E.P.U. is to a considerable extent helped by what is known as the system of "liberalization quotas" which in practice means that members of the Union impose relatively less severe quantitative restriction on imports from other members than on imports from dollar areas. However, if the degree of convertibility envisaged permitted sterling earned from current

transactions to be used to purchase dollars from the central reserves in London, there is the obvious danger that this would lead to a large shift in demand away from sterling goods and towards dollar goods.

How severe the strain could be of a marked switch in demand away from sterling goods and towards dollar goods on the central reserves in London would naturally depend on the conditions attaching to the types of current sterling transactions ranking for convertibility. But if, for argument's sake, all sterling earned on current transactions within, say, a period of one year; were to be eligible for conversion into dollars, the full potential strain could be as much as £3,200,000,000—for this was the approximate amount expended by the sterling area on goods imported in 1951 from Western Europe and from other non-dollar but non-sterling countries. This figure is, of course, only useful as a guide to the immensity of the full potential strain for it is obviously out of the question to believe that trade with Europe* would dry up completely on the introduction of convertibility. Nevertheless, it illustrates the size of the problem and shows how essential it is to the success of the scheme that a significant switch in demand from sterling goods to dollar goods must be prevented.

There are, on the other hand, those who do not believe that any significant shift in demand would take place. This view rests on the premise that the demand for goods depends on the relative competitive powers of sterling goods compared with dollar goods. While those that hold this view would not seek special assurances from Europe they would introduce measures designed to enhance the competitive power of sterling. These would involve further anti-inflationary measures and a freeing of the sterling exchange rate so that if the competitive power of sterling goods declined, the automatic depreciation of sterling which would ensue, would provide the correcting factor.

It is possible that ultimately some means to enhance the competitive power of sterling goods will have to be introduced but rather than rely on further disinflationary measures, and a freely fluctuating exchange rate which could turn out to be too onerous a burden for the Commonwealth to shoulder, it appears much more to the point to secure an arrangement with European and other non-dollar countries designed to prevent any marked switching of their imports from sterling goods to dollar goods once

convertibility was an established fact. Obviously an arrangement of this kind could not be driven to the point where these trading areas would receive no direct benefit from convertibility and the "deal" would probably narrow down to preventing these countries from converting sterling earned in current transactions into dollars to buy those goods, both capital and consumer, from dollar areas which are in direct competition with British exports.

Some kind of an arrangement must also be made with the United States. Primarily, the need is for an assurance from the U.S. that should sterling convertibility look like faltering they would bring into operation some mechanism whereby dollars would be made readily available to those countries trading with the sterling areas. One possible approach was suggested by the communiqué issued after the Conference which declared that it was the Ministers' intention to "work as far as possible through existing international institutions dealing with finance and trade" and added that one of the prerequisites of convertibility was "the availability of adequate financial support, through the International Monetary Fund or otherwise." In the light of this announcement it would seem probable that an attempt will be made to bring the International Monetary Fund into the general scheme. If so, the line of action would, presumably, be to secure a big increase in the member countries' quotas which would ease the dollar shortage and at the same time provide what the *Banker*, in its current issue, describes as a "cushion of liquidity."

There is quite obviously a tremendous amount of preparatory work to be done in the months ahead. But even so, it is fairly safe to assume that this country in any event will continue to take such steps as it can to advance towards a greater degree of sterling convertibility. Perhaps the most important of these steps is the freeing of the commodity markets which entails considerable freedom to recognised firms to operate commodity accounts. Indeed, some people in the City believe that 1953 will witness the extension of these facilities, already granted to operators in the commodity markets of tin, lead, zinc, cocoa, rubber, tea and coffee, to cover trading in copper, gold, silver, wheat, coarse grains and cotton futures. If so, this would in effect be granting rights of convertibility to the sterling used in these transactions. Another possible step that might be taken before the convertibility scheme is launched might be bound up with widening the range within which the sterling exchange rate will be allowed to fluctuate.

With regard to the question of what part, if any, the price of gold has to play in the convertibility scheme, Mr. Eden, after the conference, made it clear that the question of the dollar price of gold was of great interest to the Commonwealth but no statement was made that the Ministers would present a case for an increase in its price. Yet, it has been pointed out that a rise in the American gold price of 25 per cent. would make a difference of approximately \$150,000,000 in the sterling Commonwealth's balance of trade. The size of this "windfall" is obviously very attractive, especially as it would provide, or at least go a good way towards providing, the size of shock absorber necessary to tide the convertibility scheme over the initial period, when doubts about its permanency might very well lead to a rush by holders of current sterling to convert into dollars at the first possible opportunity.

While there was very little likelihood of an upward adjustment in the price of gold being made under the Truman administration there is scope for believing that the Republican administration may not share the views of President Truman and Mr. Snyder. But it should not be forgotten, as the Mocatta and Goldsmid's annual bullion circular points out, that in the absence of fresh emergency legislation, power to make a change rests with Congress and not with the President alone. In any event, the question of a change in the official price of gold in the U.S.A. and

the details of the Commonwealth plan will be a lot clearer after the projected visit of the British Ministers to Washington which is believed to have been arranged for some time in the spring.

Tungsten and the Korean War

It is true enough to say that tungsten supplies represent about the only material benefit which the United States is currently deriving from the leading part it is playing in U.N.O.'s fight on the Korean peninsula. In this connection, a despatch which appeared last week in the *Portland Oregonian* is of considerable interest. In the first of a series of articles on Korea syndicated by the *Chicago Sun-Times*, Mr. Frederick Kuh writing from Pusan on December 29 gives the following facts which have apparently been released with U.N.O. Command's approval:

Tungsten is about the only material gain the United States is getting from its large military and economic commitment in Korea. Almost one half of South Korea's total exports, according to value, consist of tungsten, and the United States is enjoying a monopoly of these deliveries.

During the past fiscal year, South Korea's total exports were worth about \$20,000,000, of which tungsten accounted for \$9,500,000. All of it went towards America's stockpile.

American army engineers are reported to be supervising the working of the tungsten mines near the front. In the past six or eight months, South Korea's output of this precious ore has been doubled. Exports to the U.S. are steadily increasing. New mining equipment is expected further to enlarge output. With China's tungsten supply now available only to Communist bloc, Korea's production is at a premium.

But the richest tungsten mines of Korea are beyond the United Nations front lines and under Communist control. They are not far north of our present positions and a successful drive, say about 70 miles up the peninsula, would transfer possession to the allied side.

The Platinum Metals in 1952

Speaking at Newark, America, recently, Mr. C. W. Engelhard, President of Baker and Co. Inc. and its affiliates, stated in a year-end review that during 1952 the free world requirements for the platinum metals continued at the high level of the previous year. The outlook for 1953 is that overall demand for platinum is likely to continue at a high level, and there is no indication at present of an early oversupply. Palladium supplies should continue adequate.

As in previous years, the United States was the largest importer and user of platinum and palladium during 1952. In that year, American demand for platinum for military and industrial purposes exceeded the supply throughout the year, despite Governmental measures of conservation, and indications are that complete sales figures for 1952 will show that for the second consecutive year palladium sales paralleled those of platinum. In the first six months of the year platinum sales to the United States totalled 111,000 oz. and palladium sales totalled 108,000 oz., the main sources of supply for platinum being Canada, South Africa and Colombia. There seems little room for doubt that these countries have supplied the United States with more platinum in 1952 than in the previous year.

In addition to platinum and palladium, the range of platinum metals includes rhodium, ruthenium, iridium and osmium. Each of the six is an element and the latter four are very rare.

These metals find widespread uses. Platinum catalysts are utilized in the manufacture of high-octane petrol, and extensive use is being made of palladium as a catalyst in chemical processes.

Since July of last year, a uniform ceiling price of \$93 per troy ounce has applied to platinum in the United States.

Australia

(From Our Own Correspondent)

Melbourne, December 30.

Latest figures issued by the Commonwealth Government show an improvement in the production of gold in the first nine months of the year, despite the fact that wages have continued to rise and there has been no decrease in the cost of machinery and stores; favourable factors have been a slight improvement in the labour position and some assistance from premium sales of gold made by the Gold Producers' Association. Gold returns for the Commonwealth as a whole for the nine months to the end of September increased by 39,910 f.oz. over the corresponding period of 1951, to a total of 699,903 f.oz. Western Australia has shown a marked improvement to the end of October, the figures being 599,296 f.oz., compared with 515,190 f.oz. for the same period of 1951, despite the loss of Wiluna Gold Mines and Paringa Mining and Exploration Co. as producers. In Victoria, although gold production has reached a very low level, there was an increase in the total production to the end of October of 7,085 f.oz. to 55,190 f.oz.

Important increase in output depends upon an increase in the price of gold to an adequate figure; sales by the Gold Producers' Association have merely added sufficient to the price of gold to keep returns ahead of wage increases. Sales by the Association since November 1951 have realized a profit of £A900,188 on a turnover of 867,487 f.oz., equivalent to an average premium of 20s. 9d. per f.oz. The existing cost level in all Australian industries is a menace to their future existence in the face of the price competition that must come; costs may be held, but safety can be assured only by increased working hours and reduced wages. On the cost side, there is little Government effort to assist, as instanced by the attitude of the Victorian State Government towards provision of electric power to the gold mines of the Wood's Point district, which will be an important factor in cost reduction, but in order to bring in State Electricity Commission power, the companies concerned are contributing £A105,000 while the Government contribution is £A10,000.

MOUNT ISA'S COPPER CONCENTRATOR

Australian copper production in 1953 will be substantially increased by the copper output of Mount Isa Mines, North Queensland. Preparation of the large copper lode, and the construction of the copper concentrator and smelter have been greatly delayed by retarded deliveries of materials, it having been necessary to import steel because of industrial troubles on the New South Wales coalfields restricting production of steel by the steel plants in that State. Despite the many delays, copper production has been commenced rather sooner than was expected, the new plants having commenced work in mid-December, instead of March 1953. Reserves of copper ore are about 3,000,000 tons with an assay value slightly below 3 per cent. copper. When maximum output is reached, Mount Isa will contribute 18,000 tons of metal to Australian production.

One serious problem facing the Company is the necessity to pay the amount of the lead bonus to workers in the copper section. The lead bonus is not an incentive payment, but is based solely on the selling price of lead, and it is most important that this position be clarified before copper production advances. Earlier in the year an application was made unsuccessfully to the Industrial Court, for the fixing of a more equitable basis for the lead bonus, and as a result of the Court's decision, the Company has been deprived of more than £A1,000,000 as working capital be-

cause the bonus formula had not been applied to alter the starting lead price for increases in the basic wage and operating costs. This meant that the highly inflated cost of the copper plant had to be financed from profits, following the necessity to pay the lead bonus to employees on construction work in the copper plant. Lead bonus payments to all employees in the last financial period of 12 months, totalled £A2,169,068 compared with £A1,359,923 in that previous. A further application for reconsideration of the bonus basis has been made to the Court.

RECORD PROFIT FOR ELECTROLYTIC ZINC CO.

Electrolytic Zinc Co. of Australasia Ltd. has reported a good year, with a record profit of £A2,112,000, but it was stated by the chairman of directors that this is not likely to be repeated in the current year. Activities of the Company are taking place at four points. These are: increase of mining and milling at the Rosebery mines, West Coast, Tasmania; expansion of the capacity of the zinc works at Risdon, Tasmania; plant for recovery of zinc metal from residues; plant for the manufacture of sulphate of ammonia. Influence of the first three points may be felt during 1953, provided there is no reduction in the power supply; power has been severely restricted in Tasmania because of drought two years ago, which greatly reduced the water level in the lakes supplying the hydro-electric generating plants, and so far, the normal level has not been restored. At the Risdon plant work is in progress to expand the roasting capacity to enable the treatment of the whole requirement of zinc concentrate, amounting to 210,000 tons per year at full capacity. The fall in overseas price for zinc, even with no further recession, will mean a marked shrinkage in the gross surplus in the current financial year.

The announcement by the U.K. Government that zinc would revert to private trading is hoped to indicate a standard world price for the metal and that it will no longer be thought necessary to fix prices in Australia. At the present time the fixed Australian price is £A95 per ton, a condition of the recent increase to this figure being that more metal should be supplied to the home market. This condition, however, has not been accompanied by effective steps to bring all Australian producers into the field, for in the past, some zinc producing companies have carried the burden of supplying the local market at a fixed price, while others have escaped.

Industrial conditions and heavy taxation have hitherto discouraged expansion in lead-zinc mining by small companies, although opportunities existed for the reopening of abandoned mines. Now that the price for both metals has fallen substantially, several ventures are in the initial stages of dewatering, or exploration, and the economics of the enterprises may have to be reviewed in the light of prevailing costs and taxation. Western Australia has one old mine again in profitable production. Three or more old mines of promise in New South Wales are being examined and while the grade of ore, as at present known, is satisfactory under present conditions, the possibility of further fall in metal prices is a factor of importance in the immediate future.

COAL MINING IN N.S.W.

The Joint Coal Board is planning readjustment of the coal mining industry in New South Wales which may involve some reduction in open cut mining and rearrangement of underground mining so that poor quality coal would be replaced by higher grade coal. As part of this proposal the Board has proposed a guaranteed payment for any period that miners are unemployed after being displaced from the coal industry. The suggested payment will be in the form of an allowance which will continue until the miners are reabsorbed into the industry.

The Exploitation of Hungarian Mineral Resources

By JOHN CARDEW

Greatly intensified exploitation of natural resources has been one of the most important developments throughout Eastern Europe since the termination of the Second World War, and recent successes claimed by Hungary in the field of mineral prospecting throw interesting light on the progress so far achieved. In the following article the author points out that in addition to her well known coal and bauxite deposits, Hungary has now recorded appreciable progress in the discovery and exploitation of more varied resources.

Since 1945 experimental drillings in Hungary for water, coal, ores and mineral oil and natural gas have been pursued on a considerable scale. In the past, successive governments showed little interest in resources other than the best known ones, coal and bauxite, and it is in fact not surprising that recent investigations have yielded appreciable results. According to reports in the Hungarian press, drillings in the last seven years have led to the discovery of deposits of lead, zinc, iron ore, manganese ore, mineral oil, fluorite and gypsum. Extraction of lead and zinc is to be undertaken next year and is expected to satisfy all Hungary's own needs by the end of 1954.

CONSIDERABLE BAUXITE RESERVES

Lack of iron ore deposits has been a main problem in iron and steel production in Hungary and recent discoveries have been described as opening "perspectives which a few years ago would not have been dreamed of." Iron ore of good quality has for long been obtained from the Rudabanya deposits near Salgotarjan. The pre-war yield from the deposits was about 300,000 tonnes a year. A further potentially important source of supply is bauxite ore, rich in iron. For some years now research has been carried out with the aim of smelting bauxite ore in order to increase the supply of iron. Meanwhile the country is partly dependent upon imports and it was announced some time ago that the big new Sztalinvaros plant would use Soviet iron ore.

Hungarian bauxite reserves are estimated at 300 million tonnes, or one tenth of world deposits and 60 per cent. of European deposits. According to a recent Budapest report the amount of bauxite extracted in 1938 was 549,000 tonnes, of which over 90 per cent went to Germany for processing. Since the completion of a large alumina factory at Almasfuzito, early in 1951, more than half of the bauxite produced in Hungary has been processed in Hungarian plants. Extraction of ore is said to have increased by more than half this year and aluminium has been put to a number of new uses, especially in bridge-building and for scaffolding. Recent prospecting has also shown bauxite reserves to be more extensive than was previously thought. Discoveries have been made in the region of the Bakony Mountains west of Budapest and this hitherto little known area is now expected to become a leading Hungarian bauxite centre.

OTHER DEPOSITS

Hungary possesses rich mineral oil deposits and before the war six fields were being worked for the extraction of oil and natural gas. An additional six fields have come into operation since 1948 and although the country's present total yearly output is not known, it undoubtedly counts for a bigger proportion of total needs than ever before in spite of the greatly increased rate of consumption in recent years. At the present time 10 seismographic instruments are said to be in use in connection with prospecting for further oil deposits. Drilling now being carried out on the Great Hungarian Plain is part of a vast scheme to develop and industrialize this former barren region.

Bentonite mining, begun in Hungary in the 1930's, is

assuming increasing importance as the industrial uses of bentonite become more extensive. A factory for processing bentonite was established some time ago at Mad in north-east Hungary, and plans have been announced for a second and bigger plant. Bentonite was used in Hungarian foundry work for the first time in 1941 and was discovered to be highly suitable because its binding capacity is only slightly affected by the increase of water. Apart from the chemical industry, the product is now widely used in the textile and rubber industries and the sugar, paper and soap industries. The setting up of a special bentonite research committee in 1949 indicated the importance the Hungarian authorities attached to intensified exploitation of this essential industrial raw material. It is in addition an export commodity. Besides bentonite, Hungary has ample deposits of numerous other clays. Sand and gravel are also found in abundant deposits, especially along the Danube, and have determined the sites for two recently completed factories to manufacture prefabricated concrete parts for buildings.

Systematic geological mapping in Hungary in recent years is reported to have revealed the presence of a number of minerals unknown in the country before. As a result the mining of fluorite, gypsum and talc has already begun and the future production of quartz, glass, cement marl, trass, silica and kaolin is expected to be sufficient for Hungary's own needs and to provide exportable surpluses in some cases.

CO-OPERATION IN EASTERN EUROPE

While chief Western interest in Hungarian mineral production is from the point of view of possible future exports, another aspect of the developments that have taken place is of considerable importance, namely the extent to which other neighbouring East European countries have been taking part in the exploitation of such materials as bauxite. Elaborating on an important theme of Stalin's *Bolshevik* article, "the disintegration of the single, all-embracing world market" and "the creation of two parallel world markets," Hungary's deputy Minister of Foreign Trade, Laszlo Gay, recently gave some interesting examples of "the growing economic co-operation among the countries of people's democracy." He revealed, for instance, that under recent agreements the "people's democracies" are specializing and exchanging their products to avoid "frequent readjustment of the rolling mills which in turn would mean inadequate utilization of equipment." In the same way Czechoslovakia has been producing aluminium from Hungarian bauxite.

It seems, in fact, that rationalized production on the basis of closer co-operation between the economies of the separate "people's democracies" is a major goal. Transfers of electric power across East European frontiers have already taken place according to the Hungarian Minister, and a sizeable portion of the chemical industry is to be greatly expanded as a result of mutual co-operation agreements concluded several months ago by the Roumanians with Hungary and Eastern Germany. In this way the future exploitation of Hungarian (and all East European) resources will become the concern of all the Eastern countries.

Material Handling Plant for Bauxite Ore Carrier

The exploitation of bauxite deposits within the Caribbean area has assumed an increasing importance as the potential uses of aluminium become more and more widely recognized and as the Kitimat project moves towards completion. The following article initially mentions the inauguration of bauxite mining by Reynolds Jamaica Mines Ltd., and continues to describe in detail a new ore-carrying ship built for the company. The article closes with data of further activity in the Caribbean area by the Reynolds Metals Company.

The official opening of bauxite mining operations at Ocho Rios, Jamaica, British West Indies, by Reynolds Jamaica Mines Ltd., took place early last year. The occasion was marked by the attendance of American industrialists, and His Excellency, Sir Hugh Foot, Governor of Jamaica, said at the time that Jamaicans were delighted at these measures destined to expand the industrial activity of the island. Both the British and Jamaican Governments are interested in developing Jamaica's economy.

These shipping operations commenced in June 1952.



The S.S. Carl Schmedeman

Since this occasion, which marked the completion of the \$17,000,000 project by Reynolds Jamaica Mines Ltd., the company has been shipping bauxite to the United States.

A NEW TYPE OF SHIP

To facilitate the operation of unloading the bauxite mined in Jamaica, a new type of ore-carrying ship has been equipped to unload the bauxite by means of its own inbuilt materials handling plant. The vessel is named the S.S. Carl Schmedeman, and she was built by Vickers Armstrong Ltd. for Reynolds Jamaica Mines Ltd. The vessel is 518 ft. in overall length and 66 ft. breadth moulded, with a deadweight of 13,150 tons.

In so far as the incorporated conveyor plant is concerned, this unit has been designed to accommodate ore with a maximum screen size of $\frac{3}{4}$ in. and weighing approximately 66 lb. per cu. ft. at a maximum rate of 1,400 tons per hr. The conveying equipment has been manufactured and installed by the Fraser and Chalmers Engineering Works of the General Electric Company Ltd.

THE HOLD CONVEYORS

The holds of the ship are specially designed for ore-transportation, and within them 152 hopper gates are fitted. These gates are operated by a handwheel through gears and chain on grooved drums, a feature which enables the ore to be discharged by gravity on two hold conveyors of Robins design. Each conveyor is 397 ft. in length and 42 in. in width, and the conveyor belts are of cotton impregnated with rubber, and are rubber-covered.

The conveyors operate on special Robins 42-in. three-pulley, roller bearing troughing idlers at approximately 2-ft. centres under the holds. Beyond the holds, the conveyors

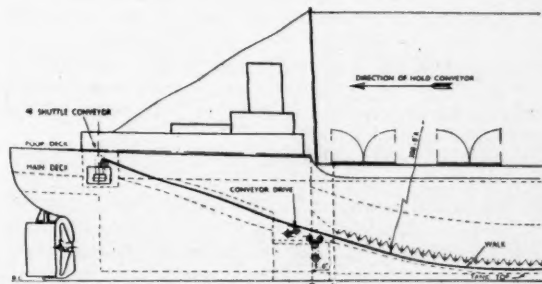
incline to a rise of 38 ft. with idlers spaced at approximately 3-ft. centres, and at a belt speed of 360 ft. per min. the maximum capacity of both conveyors is 1,400 tons per hr.

The approximate weight of each hold conveyor when unloaded is 64,000 lb., and the weight of the gates and operating gear is approximately 225,000 lb. The drive to each conveyor is made through speed-reducing gears with a ratio of 9.733 to 1, flexibly coupled to a G.E.C. 100-h.p. continuously rated motor. This motor is totally enclosed, is fan cooled and dust proof, and runs at 1,750 r.p.m. The supply is 440 volts, 3-phase at 60 cycles.

THE SHUTTLE CONVEYOR

In its motion of transportation, each hold conveyor discharges to a reversible shuttle conveyor mounted athwartships and discharging from either side of the vessel at will. The discharge is made through specially constructed side doors. This shuttle conveyor has a length at rest of 37 ft. 6 in. and by pneumatic operation extends 11 ft. 3 in. through the side of the ship. When not in operation, it is housed within the ship's side.

The 48-in. belt of the shuttle conveyor is carried on 48-in., 3-pulley roller bearing troughing idlers. It has a speed of 515 ft. per min., and thus is capable of handling the output of both hold conveyors at the maximum unloading rate. The shuttle conveyor is driven through speed reducing gears with a ratio of 15.6 to 1. These are flexibly coupled to a G.E.C. continuously rated 20-h.p. squirrel cage reversible electric motor. As is the case with the hold conveyor motor, this unit is similarly totally enclosed, fan cooled and dust proof. It runs at 1,750 r.p.m., 440 volts 3-phase 60 cycles. The weight of the shuttle conveyor, including the extension gear, is approximately 26,000 lb.



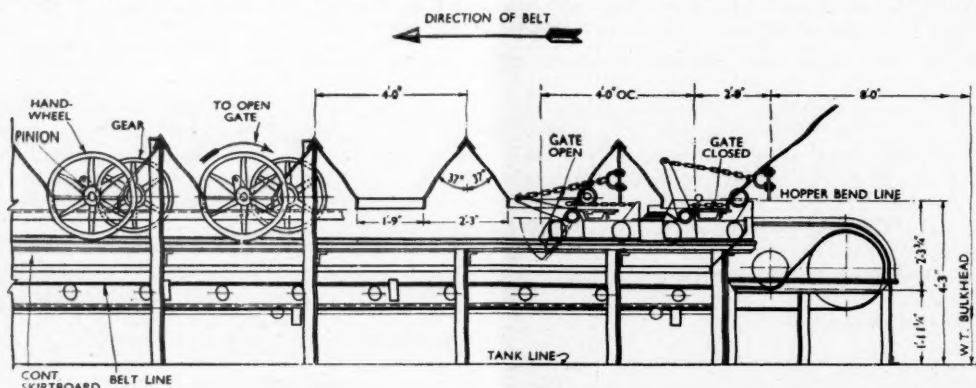
The 38 ft. rise of the main conveyors beyond the holds to the shuttle conveyor level

Items of electrical control gear supplied for the conveyor systems by the General Electric Company Ltd. included starters for the two 100-h.p. motors, control equipment for the reversible 20-h.p. shuttle conveyor motor, and the two 10-in. Witton-Kramer solenoid brakes for utilization with the hold conveyor motors. In addition to the shipboard equipment, Fraser and Chalmers Engineering Works supplied the whole of the idlers complement, the pulley outfits and bunker discharging gates for the loading plant operating from shore to ship.

All offices, dining rooms and living rooms aboard the S.S. Carl Schmedeman are fitted with 12-in. oscillating fans manufactured by Woods of Colchester Ltd. In these units the switches are housed in the bases of the fans.

The interest of the Reynolds Metals Company in the Caribbean area was further demonstrated last month when the company acquired all of the assets of Berbice Company Ltd., the British Guiana subsidiary of the American Cyana-

and measures to improve the operation. Production on the property has been approximately 20,000 tons of bauxite a month, and a portion of the ore has been used in the manufacture of chemicals, including alum, which requires an iron



A diagrammatic elevation of the hopper gate gear and hold conveyor

mid Company. The assets taken over are stated to include the plants, machinery and transportation equipment used in the bauxite mining operations there, as well as certain mining leases.

Meanwhile engineers of the Reynolds Mining Corporation are in British Guiana to study rehabilitation possibilities

content not exceeding 1.5 per cent. The sale noted includes a stockpile of high-grade ore containing approximately 58.5 per cent. alumina.

It has been stated that assurance has been received that the Government of British Guiana has approved the transfer of mining rights to the Reynolds Metals Company.

Tin Mining in Indonesia

While the following article, reproduced from *Tin And Its Uses*, presents a general picture of how tin is mined in Indonesia, its scope does not extend to a discussion of such crucial questions as the eventual nationalisation of the industry, the availability and composition of the labour force and taxation.

Tin has been mined in Indonesia for the past 250 years and in recent times this area has provided some 20-25 per cent of the world's annual production of tin. During the war the Indonesian tinfields, in common with Malayan and other areas, were occupied by the Japanese and much equipment was destroyed or lost. Within a few years after the surrender of the Japs, however, the tinfields were re-equipped with new and modern machinery and restored to their former important position as producers. Current output is of the order of 30,000 tons (tin content of the concentrates) annually.

Tin deposits are found for the most part on three islands situated off the southern coast of Sumatra, Banka, Billiton and Singkep, of which the first two are the more important. Geologically, these tinfields are a south-easterly extension of the Malayan and Burmese fields. The tin minerals have been concentrated as a result of a very long period of weathering and selective erosion by waters on the pre-alluvial land surface of old Sundaland. Therefore tin ores are found as eluvial concentrations along the slopes of the water-divides and in old riverbeds. These alluvial deposits are found interbedded in marine and fluvial recent sediments covering the contour of the old Sunda peneplain.

HISTORY

The industry began early in the 18th century when a group of five brothers of Chinese origin settled with their families on the Island of Banka. They had learnt the art of tin mining in Malaya and they quickly developed a new outlet for their experience. In fact with such success that the eldest brother soon became the Governor of the Island. As their operations expanded they brought over workers from the Chinese mainland where tin mining was

an old established business, and for some 200 years this alien Chinese community carried on their traditional methods of tin mining practically without change.

Tin mining on the Island of Billiton owes its initiation to the enterprise of the Dutch who began operations about the year 1850. But the lot of the pioneer in any country is hard and in the tropical swamps of Billiton the death rate among these pioneers in those early days was high. However, dogged courage gradually built up a thriving industry and thousands of tons of tin were mined by manual labour alone.

MECHANIZATION

Before the end of the 19th century mechanization had begun and pumps driven by steam engines were introduced to remove excess water out of the pits. Later high pressure water jets were used to remove the overburden and to break up the tin bearing strata while other pumps were employed to carry the alluvial mud to the concentrating plants. More recently, where the tin-containing layers are hard and tough, bulldozers and draglines are used to assist the excavating work in the mines.

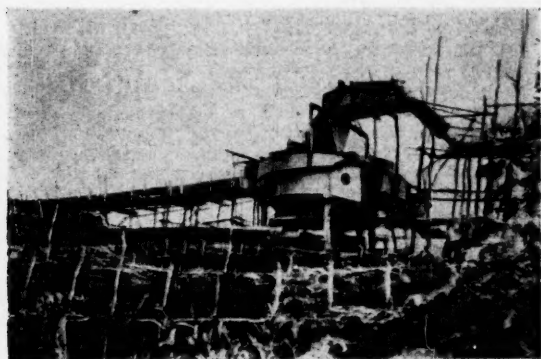
The introduction of machines reduced the manual labour enormously.

About 1920 the tin dredge was introduced in Indonesia. It is perhaps unnecessary to describe a modern dredge on this occasion; its combination of excavating machinery, concentrating plant and mobility have obvious advantages, but it must float. Indeed, a lagoon of considerable size and depth is essential not only for the manoeuvring of the ship with its chain of buckets across the working face but because the concentrating plant may require the circulation of some 1,000,000 gall. of water per hour and as

this is discharged heavily loaded with mud a small pond may rapidly become unusable. It is, indeed, advantageous to provide a continuous supply of clear water and to allow some of the muddy effluent to flow away.

CIVIL ENGINEERING ENTERPRISE

A feature of alluvial tin mining in Indonesia is the extent of the civil engineering enterprise which has been employed to build dams, sluices, and canals to form vast inland lakes or areas where the water level is high enough for the maintenance of lagoons in which the tin winning



Concentrating Tin Ore—The portable jig

can be carried out by dredges operating at high efficiency. This method calls for a combination of long views and large-scale organization, and in spite of the enormous first costs it has created workable mine fields out of country which could have been only slowly and expensively exploited by conventional mining methods.

A typical case is that of the Soengei Lenggang valley in Billiton. The tin-bearing ground was some 13 to 21 ft. above the normal water level of the Lenggang River. After a careful survey of all the factors involved it was decided to dam and flood the valley. A modern dredge can work ground as much as 9-10 ft. above its water level, consequently a rise in water level of only 12 ft. sufficed. Even this required a dam 335 ft. long, which rises in places 33 ft. above its base. The area of the river basin thus sealed off is 285 sq. miles.

For the supply of fresh water and for the discharge of the muddy effluent a canal of about 3 miles length was dug. Monsoon rain water created a further problem. The area is subject to sudden and severe rains and to deal with these, large sluices had to be built in the dam which can handle some 20,000 cu. ft. per sec. or about 2,000 million cu. ft. in a day.

Along the coast of Banka, in Klabat bay, the object of civil engineering works is exactly the reverse. Tin bearing ground there is hard to work by means of dredges. Therefore, parts of the shallow sea were completely surrounded by dams after which the area was pumped dry and the ground worked by conventional mining methods.

CONCENTRATING THE ORE

As, for the most part, tin is won from secondary alluvial or eluvial deposits and occurs as particles of oxide of considerable purity, it is separated from the accompanying mud and sand by virtue of its greater density. It is in fact about three times as heavy as ordinary clay. Formerly the concentrating plants were wide launders (tailraces) whose bottoms were fitted with shallow cross baffles. The material, excavated by the buckets of the dredge, or washed down by the monitor jets in the open pits, was carried through

these launders by a steady stream of water. The concentration of the tin-ore in the tailraces greatly depended on the skill of workers working with hoes in the silt deposited in them, giving the heavy particles a chance to sink and remain behind the baffles while the lighter particles are washed away with the stream of water.

Nowadays, concentration is effected more and more by a kind of machinery, called jigs. In jigs, concentration is achieved by lifting the silt intermittently by means of a pulsating water current. At each impulse the grains fall under the influence of their own weight. The heavy tin-bearing grains fall quicker than the other stuff present. Thus only the tin concentrates reach the lower part of the jig. By repeating this process a few times, a practically clean concentrate can ultimately be tapped from the lower part of the jigs.

The tin-concentrates obtained in the above-mentioned apparatus are dispatched to Holland or to Texas for smelting.

THE FUTURE

To-day practically all the tin won in Indonesia comes from secondary alluvial and eluvial deposits. The exploitation of these ores is easier and cheaper than that of primary ores but the known reserves of alluvial ores are becoming continually poorer in tin content. For example, the average tin content of the ground treated in Banka in 1951 was 0.7 kg. per cu. metre, whereas some 60 years ago this figure amounted to 2 kg. per cu. metre, which at that time marked the limit for economic production.

The interest in primary deposits is therefore increasing. Before the war a quarter of the production of Billiton was obtained from an underground mine. This mine was flooded during the war and is still idle. In the future, however, this and other deep mines may be exploited. Another interesting possibility is that some of the tin ore deposits at sea may extend farther away from the coastline. Already



Concentrating Tin Ore—The launder

dredges are in operation close to the coast line and as modern dredges are seaworthy it seems probable that dredges on a still more advanced principle, or some other machinery capable of digging deeper than the 100 ft. dredge, may be able to exploit areas of workable deposits not yet touched by man.

Taken as a whole the picture of tin mining in Indonesia shows the natural riches of a tropical country, discovered and developed over a long period of years, where every advantage is taken of progress in modern science and industry to make working conditions efficient and living conditions pleasant.

MACHINERY AND EQUIPMENT

The English Electric Company in 1952

As in previous years, during 1952 the English Electric Company Ltd. made a noteworthy contribution to the further development of the ore mining and metallurgical industries, both in this country and abroad. Repeated proof was given of the qualities of the "English Electric" Canberra jet bomber, and the production of diesel engines was continued at a greater rate than in 1951. The trade in these units was balanced between traction applications and industrial uses, and further contracts have been placed by overseas Government Departments resulting from previous installations in the Sudan, Malaya, Australia and Nigeria among other countries.

The manufacture and sale of industrial electric machines were satisfactory, while ten water turbines for hydro-electric plant were commissioned for Scotland, Portugal, Spain and India, and a 30,000 h.p. water turbine is to be manufactured in Canada by the John Inglis Company, an associate. These and numerous other equipments for industry, including such items as rectifiers, switchgear, steam turbo-alternator plant and electric locomotives were manufactured by the English Electric Company during 1952.

The manufacture of equipments for the mining industry played a prominent part in the Company's general activities. Orders received for mine winders and haulages continued on a satisfactory scale, the majority being for various divisions of the N.C.B. A characteristic feature of the orders was the number of geared a. c. winders required, and a new note was struck by the receipt of orders for mobile emergency winders. One such equipment of the diesel-electric type was rated at 95 h.p. and comprised a Leyland towing vehicle carrying the diesel engine, driving a variable voltage generator and direct coupled exciter. The trailer was provided with dual road and rail wheels and carried the winder motor, gearing, winding drum and control platform. A further equipment was a straight-type a. c. mobile winder of 150 h.p., consisting of a single vehicle carrying the motor, gearing, winding drum and controls.

So far as the Ward-Leonard type of equipment is concerned, a repeat order was received for a direct coupled drive of a 23 ft. diameter Koepe pulley. This equipment is interesting, in that the motor, of 1,860 h.p. at 32.7 r.p.m., as well as the M G set and control gear, are electrical duplicates of an equipment now under manufacture. Both winders are to be installed in the same division of the N.C.B. The new unit is capable of raising 185 tons of coal per hr. from a distance of 3,000 ft., and will be provided with a driver's control desk which incorporates a precision miniature depth indicator. Speed of operation in the unit will automatically be controlled by use of the Company's patented control exciter scheme, which maintains a given speed setting regardless of the load carried. An existing Ward-Leonard winder with automatic speed control in another division of the N.C.B. is being modified to incorporate a control exciter set.

Several orders were received for steam to electric conversions, among the repeat orders being four 650 b.h.p. sinking winders for the N.C.B., Scottish division. Equipments for installation overseas included geared winders placed in service in South Africa. These were a. c. units of 1,040 h.p., 1,340 h.p., and the third of four twin units each of 4,040 h.p.

Fog Sprays Settle Coal Dust

By adding three additional "fog nozzles" to the head of a continuous automatic mining machine, the problem of controlling coal dust was solved in an American coal-mine, according to Mechanization. Although the machine was already equipped with three fog nozzles, these additional nozzles with an increase in the pressure of the water spray, were found to be necessary to control the dust. The solution required several months of experiment.

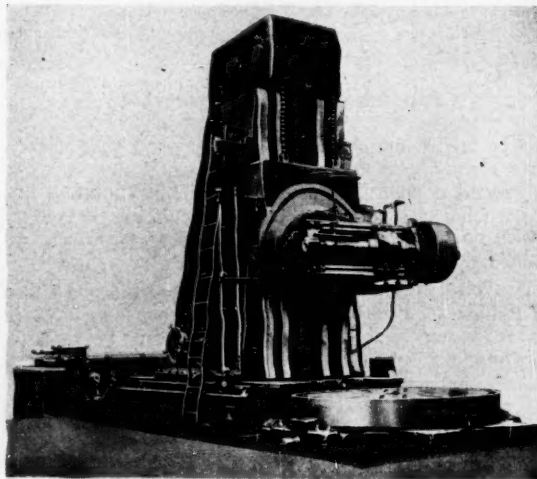
The fog produced does not make the mine too damp for comfort and production. It requires only an estimated four gallons of water per ton of coal mined, and the spray system operates automatically. The water passes through the fog nozzles only during sumping and shearing operations. Soon after the sumping jacks begin to extend the head of the machine, the water control opens, and water flows until the head retracts. Before it reaches the fully retracted position, the movement of the head activates a cut-off valve and shuts off the water.

Two Units for Heavy Industry

It has recently been announced by the David Brown Companies that one of the South African associates, Precision Equipment (Pty) Ltd. of Benoni, Transvaal, has been renamed David Brown Precision Equipment (Pty) Ltd. This change of name underlines the large scale expansion of production facilities carried out at the Benoni plant during the last two years. An addition to facilities at Benoni has been the inclusion of a new heavy machine shop, and most of the equipments for this installation have been supplied by British associates.

These equipments include a massive moving head type wheel hobbing machine which weighs 94 tons, and which is capable of cutting gears up to 16 ft. diameter. Gears of this type are used extensively in tube and ball mills and for mine winders. This machine will cut straight spur and spiral gears and single and double helicals by the hobbing process or by milling, using formed cutters and indexing for each tooth. In addition it can be used for cutting worm wheels with feed tangential along the cutter axis by means of a special hob slide.

The hobbing capacity covers spur and helical gears up to 6 ft. facewidth and 45° helix angle, and the maximum weight with



The moving head type wheel hobbing machine

which the table may be loaded is 40 tons. Maximum pitches when hobbing are $3\frac{1}{4}$ in. for steel and $3\frac{1}{2}$ in. for cast iron, and when cutting with end mills $4\frac{1}{4}$ in. for steel and $5\frac{1}{2}$ in. for cast iron. The maximum diameter of the hob is 15½ in. Delivery of this and other units presented paramount problems to the South African transport contractors, and several bridges had to be strengthened and widened in that country on the transportation route. The extensions to the Benoni plant were mentioned in our issue of September 21, 1951.

Other equipment is announced by the Coventry Gear Company, a member of the David Brown group of companies, which has recently introduced an addition to its range of "Coventry" geared motors. This new unit, the Size 3 Model, is available in either double or triple reduction form and has a wide range of applications. Typical among its uses are as drives for conveyors, small compressors, pumps, hoists, dryers, agitators, strainers, fans and the like. The unit has a motor speed of 1,425 r.p.m., this factor providing a choice of 17 output speeds ranging from 25 to 345 r.p.m. with an equivalent variation of input powers from 1.25 to 5 h.p. These motors can be mounted in any of several positions and all lubricating operations can be carried out without difficulty in any of the mounting positions.

The gears and motors are integral and are suited for installation in confined spaces. Excluding motor, the weight of the double reduction unit is 105 lb. and of the triple reduction version 110 lb.

The overall efficiency of the Size 3 Coventry geared motor is stated to be approximately 96 per cent., in its double reduction form and between 94 and 95 per cent. as a triple reduction unit.

METALS, MINERALS AND ALLOYS

COPPER.—A number of distinguished American voices were being raised at the year-end against the continuance of Washington's price controls on copper. One of the more telling arguments in favour of removal of restriction is the effect that control of domestic prices is having on the availability of copper scrap. In some quarters it has been estimated that freeing of prices would yield as much as 150,000 tons additional copper in a year, equivalent to 10 per cent. of domestic refined production. It is clear enough that anyone in the States, who is in possession of domestic copper scrap to-day, will tend to hold on to it in the expectation of an eventual price freeing. At the same time the secondary smelter while compelled to sell on the basis of the domestic price level is expected to compete in the world's scrap market. At present imported copper scrap is fetching around 30 c. per lb. as against 19.50 c. for domestic scrap.

Mr. James J. Russell, chairman of Revere Copper & Brass Inc., published an interesting estimate recently of anticipated increased production by the free world's leading producers. It will be seen from these figures, which we give below in thousands of s. tons, that some American observers foresee no substantial increase in world copper production for the next two or three years.

	1951	1952	1953	1956
U.S.	938.1	940	980	1,200
Canada	270.5	265	280	300
Chile	418.6	410	450	500
Australia	17.7	20	30	35
Congo	211.6	215	215	225
Rhodesia	349.7	330	390	450
Total	2,206.2	2,180	2,345	2,710

Mr. James T. Patterson has now introduced his Bill in the House of Representatives, calling for the continued suspension of the copper import duty until June 30, 1954. This action clearly adds substance to the above production estimates. To quote Mr. Patterson, "the supply of copper from all sources does not yet meet the demand, and there will be no appreciable change in that situation for some time to come." The current suspension authorization by Congress expires on February 15.

A crack has appeared in the strike at the Braden Copper Company's El Teniente copper mine. Seventy per cent. of 6,450 labourers at the mine returned to work last Wednesday after obtaining 25 per cent. wage increase and other concessions. The remainder are still on strike.

The market has remained firm in the States this week, although conditions are reported quiet on the Continent, with the free price at between £275-285 per ton c.i.f. Western Europe.

LEAD.—Following up and supporting Mr. Wormser's (St. Joseph Lead) ominous proposal for an equalization tax on lead and zinc exports, Mr. Andrew Fletcher, President of St. Jo gave an interesting assessment last week of the U.S. supply/demand situation during 1952. Domestic mine production for the year he estimated at 375,000 tons compared with 388,000 in 1951. Imports at 535,000 tons more than doubled the 258,000 tons for 1951 which was abnormally low, the imposition of U.S. ceiling prices having diverted metal to Europe. Scrap recovery Mr. Fletcher put at 440,000 tons (482,000), giving a total of metal available to the U.S. in 1952 as 1,350,000 tons. Consumption for 1952 he estimated as substantially the same as in 1951, at around 1,200,000. The balance between supply and consumption has apparently been absorbed by stockpiling and a slight increase in smelter stocks. Lead requirements in 1953 will, he believes, continue to bear a fixed relationship to industrial activity and should be substantially the same as last year.

In supporting Mr. Wormser's case for an equalization tax on imports Mr. Fletcher has emphasized the necessity of sustaining domestic lead production "which operates under America's high labour standard." This attitude is in sharp contrast to that of the Paley Report, which took the view that the idea that the American standard of living must be protected from low cost foreign supplies based upon "cheap labour" was based upon an unemployment psychology. The Paley Report maintains that in a full employment situation the supply of any material from abroad at a price below domestic costs does not lower the American standard of living but actually helps to push it higher.

The New York spot lead price eased slightly on Wednesday to \$14.50 in sympathy with the London market. The matter of immediate market interest, there as here, is the outcome of the Port Pirie smelter strike. Earlier this week the management and union representatives failed to reach agreement and both sides were invited to attend a voluntary conference before the Adelaide Industrial Court yesterday.

According to Mr. S. Wyman Rolph, President of the Electric Storage Battery Company, U.S. sales of car batteries are expected to show a moderate increase this year. Car registrations are expected to continue their upward trend but some of this benefit to battery makers is likely to be offset by deferment of Government defence spending.

A Bill to permit the Nordic Mining Co. to mine lead in East Greenland was given its first reading recently in the Lower House of the Danish Parliament. The Bill, which has Government support, exempts the company from taxation and customs dues but will require it to pay a lease payment varying from 15 to 45 per cent of profits. Fifty-five per cent of the share capital is to be in Danish hands while the rest will be distributed between Boliden Gruvaktiebolag and Store Kopparbergs Bergslags Aktiebolag of Sweden and Frobisher Ltd.

Tunisian primary refined lead production last year totalled 26,300 tons compared with 22,906 in 1951.

TIN.—The principal tin news this week comes from Bolivia, where an unsuccessful attempt was made on Monday to overthrow the revolutionary government. It appears to have been principally a military coup, although the insurgent leaders Colonel Cataldi, Chief of the General Staff, and Senor Hugo Roberts, formerly Press Minister, are both members of the Revolutionary Nationalist Movement which constitutes the present government. The insurgents alleged they were not seeking to overthrow the President or government but only to remove communist elements from the party.

A British Mission is on its way to Bolivia to negotiate for the continuation of ore shipments. The *Wall Street Journal* quotes *El Diario* of La Paz as stating that Bolivia will seek a contract for the sale of 50 per cent. of its output to the U.K.

Writing in the December issue of the *Bulletin* of the U.S. National Association of Purchasing Agents, Mr. C. A. Ilgenfritz, vice-president of U.S. Steel, urges the ending of Government controls on tin. Basing his argument on the prospect of a 30,000 ton tin surplus in 1952 (excluding stockpile offtake) he points out that at the worst if Bolivian supplies ceased altogether, the world would have enough tin next year, provided stockpiling were suspended. In fact, of course, as he points out, this is a highly improbable eventuality as "Bolivia's dependence on tin for 70 per cent of its income is reason enough to expect a sane and prompt solution of its problem." Incidentally, as has already been recorded in this column, the Texas smelter is stated to have enough ore in sight for twelve months' operation.

Malayan tin shipments in 1952 totalled 64,117 tons, compared with 64,957 in 1951 and 81,801 in 1950. Principal recipients of Malayan tin last year were the U.S. with 19,381 tons, the U.K. with 16,299 tons and Continental Europe with 20,261 tons.

ZINC.—A further welcome step towards the restoration of the London Metal Exchange's pre-war position occurred with the resumption of free dealings in zinc on Friday of last week. On the next page our Metal Exchange correspondent reports on conditions which have marked dealing during the first week. Business opened at a substantially higher price than appeared possible even a few weeks ago, although it has since eased to below £90 a ton. In his report our correspondent suggests that some consumers have entered into long-term contracts with producers at average prices. This would seem to imply that producers have been successful in hedging their commitments to the Ministry on a satisfactory basis. If so, this does underline the fact that quite a lot of business must be by-passing the Metal Exchange as a result of direct producer-consumer contracts, although this is scarcely to be wondered at after more than a decade during which consumers have become accustomed to the idea of a single supplier and have been denied free trading facilities.

In New York zinc prices have clearly been influenced by the London market and at the end of last week the spot price East St. Louis firmed up from 12½ to 13 cents. This increase was probably mainly psychological consequent on the unexpectedly high opening price in London and it seems unlikely that this advance will be sustained in the face of subsequent London quotations. Throughout the world however, substantial demands for zinc have been held in abeyance in recent months pending the resumption of free dealings in London and it seems inevitable that zinc must be in strong demand once the London price has been given time to settle down.

A new zinc electrolysis plant with an annual capacity of 12,000 tons is being constructed at Sabac in Serbia, and is scheduled to start production in 1954. The International Bank has granted a credit of 700,000,000 dinars for the construction work. At present Yugoslavia has only one zinc electrolysis plant in operation at Celje, Slovenia. The new plant will also produce 22,000 tons of sulphuric acid and 40 tons of cadmium as by-products.

ALUMINIUM.—In Washington a joint committee of Congress on defence production has come down strongly on the side of the big battalions in the matter of the Administration's efforts to develop the non-integrated production of aluminium—that is to say, efforts to promote the establishment of companies which would produce aluminium metal without handling subsequent stages and would consequently sell principally to independent fabricators and manufacturers. By implication such producers would be outside the orbit of the few big aluminium groups that mine, process and fabricate the metal and even, in some cases, sell the finished product. In its report the committee remarks "a hands-off policy seems most appropriate for the government with the industry members using their own business judgment as to whether they shall operate on an integrated or non-integrated basis."

As was to be expected, the Canadian Government has rejected the proposal that Canadian waters should be used to supply power for Alcoa's Alaska project. Pointing out that the Canadian Government's responsibility is to see that the country's waters are used for the maximum benefit of Canadians, Mr. Robert Winters, the Canadian Resources Minister, has drawn attention to the importance of ensuring that Canadian power resources were not lost to the country and has stressed that under Canadian law no hydro-electric or water power may be exported without a permit.

Correspondence reaching this office from one of the big American aluminium producers provides authoritative confirmation for the view that over the next few years equilibrium between probable military and civilian consumption and rapidly expanding production must depend largely on the Administration's continued intention to stockpile heavily, an intention of which one aluminium producer at least is fully confident. This same source estimates that in about 8 years from now expanding civilian use of the metal will absorb total U.S. production including all expansion so far planned.

Mr. Ward Van Alstyne, the president of the Aluminium Import Corporation, has estimated in a statement published in New York last month that world civilian demand (presumably Free World only) for aluminium would reach 3,300,000 tons a year by 1960. This compares with a figure for 1950 of around 1,500,000 and does not seem altogether out of line with the Paley Report's forecast of 6,000,000 tons by 1975. If Mr. Van Alstyne is right, there may be less cause in the long term for fear of a surplus of production capacity than some people are inclined to think. Meanwhile the N.P.A. is reported to have over-allotted aluminium in the U.S. for the first quarter of 1953 by some 98,000 tons, due partly to the continued losses of production through the sustained drought. The immediate supply position threatens to be tight, and no stockpiling is anticipated during the first quarter of the New Year.

ANTIMONY.—The Bradley Mining Co., the principal U.S. domestic producer of antimony, which closed down its mine and smelter in the middle of 1952, allegedly because of undercutting by foreign operators was rendering domestic mining uneconomic, is to reopen its smelter next spring to undertake

custom smelting of foreign ores. The company's executive vice president, Mr. John D. Bradley, is however reported as saying that "so long as foreign ores are available in sufficient quantity, and can be purchased economically, we will keep our ore in the ground."

The New York price for antimony ore has widened slightly this week and is now quoted at \$2.50-\$2.75 per 20 lbs. unit of 50-55 per cent grade.

ASBESTOS.—Little change has taken place in the American raw asbestos situation in recent weeks according to the December issue of *Asbestos*. Demand is reported to be remaining high with some tapering off in the low 5 grade and the 6 D fibres. All other groups, including shorts, are in good demand.

DIAMONDS.—Diamond sales through the Central Selling Organization for the fourth quarter of last year have now been published, revealing that 1952 again established a record level at more than £69,600,000. This has been achieved, despite a slight falling off in value of gem sales, owing to a 30 per cent. increase in the value of industrial sales. The figures for 1952 compared with 1951 are as follows in millions of pounds sterling:

	1952		1951	
	Gems	Industrial	Gems	Industrial
	£	£	£	£
1st Quarter ..	13.1	5.8	11.3	2.9
2nd Quarter ..	11.3	8.1	14.2	6.2
3rd Quarter ..	10.1	5.4	10.5	4.6
4th Quarter ..	11.3	4.6	10.8	4.5
Total	45.8	23.9	46.8	18.3

It will be observed that the rate of increase in industrial sales was highest in the second quarter and has since been tapering off, a similar pattern to the figures for 1951. It remains to be seen, therefore, whether next year's total will show a decline (for the first time for five years) in line with the easing of the re-armament programme.

MAGNESIUM.—The U.S. Office of International Trade has announced that the U.S. fourth quarter 1952 and first quarter 1953 export quotas for magnesium metal in crude and semi-fabricated forms, scrap and powder have been set at 2,500,000 lb. each quarter. The quotas announced represent a substantial increase over the 1,500,000 lb. made available in the third quarter of 1952. A total of 150,000 lb. was set aside for normal civilian uses in that quarter, with the rest going for direct military and defence requirements. For the fourth and first quarters, O.I.T. said that the largest share would again go to military and defence needs and from 10 to 15 per cent. would be licensed for civilian requirements.

MANGANESE.—The U.S. Bureau of Mines estimates the world production of manganese ore in 1951 at 7,000,000 tons. This includes a legend production in the U.S.S.R. of 2,500,000 tons. Other principal producers were: India 1,179,680 tons (47/52%); Gold Coast (exports) 819,018 tons (50%); South Africa 758,870 tons (40/50%); French Morocco 372,233 tons (32/50%); Japan 198,000 tons (32/40%).

SULPHUR.—I.M.C. allocations for the first quarter of 1953, totalling 1,675,100 tons, are at approximately the same level as during the second half of last year. Principal allotments consist of a total of 1,190,800 tons to the U.S. and Canada combined and 83,000 tons to the U.K. Although the total amount allocated shows virtually no increase the I.M.C. points out that a substantial improvement has taken place in the sulphur situation during the past six months both through an increase in production and owing to some reduction in demand through the level of industrial activity in many countries being lower than had been previously estimated. The committee feels however, that the improvement in the supply position may only be temporary.

TUNGSTEN.—The Ministry of Materials has this week again further lowered its selling price for wolfram to 392s. 6d. per 1 ton,

delivered and for scheelite to 382s. 6d. per l. ton delivered. The general tone of the market here is on the quiet side.

The American price is around \$50 equal to about 400s. per l. ton c.i.f.

GOLD.—Costs are pressing on Canadian gold producers so heavily that ten mines have been closed in the last 18 months, leaving only sixty 60 producing mines. The industry has recommended to its Government a four point programme: The sale of fine gold in the premium market; the minting in Canada of fine gold, presumably as coins; the withdrawal of the restrictions on the sale of Canadian gold; and more extensive cost and assistance.

Transvaal and Orange Free State production in November aggregated 980,193 f.oz. compared with 1,022,091 f.oz. in October 1952, and 964,818 f.oz. in November a year ago.

The Finnish Geological Research Institute reports the discovery of two gold bearing seams in Lapland, as well as other ores. Details are not yet available.

Iron and Steel

The first week of the new year has been a period of great activity in the iron and steel trade. All the producing plants are back to normal after the holidays, outputs are remarkably high and increased supplies are reaching many of the big consumers. From now on more steel will be available and users are keenly anxious to get a foremost place in the queue. They are promised progressive improvement but in many cases the need is immediate. Even the brief interruption of distribution during the holidays has been a source of embarrassment, particularly in the shipyards, and the conclusion is that the shortage will only very gradually be overcome.

There is still no hint of any authorised variation in the controlled prices and it may now be assumed that the industry will have to absorb the extra cost involved by the recent advance in railway freight charges. The advantage of stabilised prices is not underrated. British steel is relatively cheap and if, as is generally surmised, conditions become more keenly competitive, our steel industry is in a strong position to secure a substantial share of foreign trade.

How the export drive will develop remains to be seen. At the moment the pressing needs of important home industries claim first attention and steel makers have undertaken very heavy commitments for the first quarter of the year. Most of the shipyards have full order books for the next four or five years, and power plant engineers have even longer dated orders on their books.

Against this background of high industrial activity the steel makers are pressing on with their own second development plan which involves an expenditure of £1,000,000 a week over the next five years and an ultimate ingot capacity of 20,000,000 tons. The target for the current year is 17,500,000 tons and as production has recently exceeded that figure there is every confidence that the target will be attained.

Obviously a big expansion in the supply of raw materials will be necessary and the outlook in this respect is also favourable. Of late there has been a most encouraging increase in the intake of foreign ores, and the first shipments from the newly developed ore field in Conakry are expected very shortly.

The London Metal Market

(From Our Metal Exchange Correspondent)

Lack of interest in the tin market has led to a further small decline in prices, but there are no signs that this will bring about any increased activity. The Eastern price on Thursday morning was equivalent to £952 2s. 6d. per ton c.i.f. Europe.

The lead market has slipped back with a lessening in the turnover, but there are few signs that the technical position is righting itself as the backwardation continues to be abnormally high and therefore no, sharp recession seems probable. The immediate future of the market will be governed to a large extent by events in Australia, as any prolongation of the strike at Port Pirie will further diminish the availability of physical metal.

The zinc market re-opened on January 2 with a large turnover of which almost three-quarters was supplied by the Government Broker, and it was noteworthy that no interest was shown for metal for settlement in February and March and that the forward dealings were of a very much more restrained nature than was the

case at the opening of the lead market. This same pattern has been followed in subsequent markets, and although it is early to form any definite opinion there appears to be good grounds for believing that the same technical difficulties which are influencing the lead market will not arise in the case of zinc. It is reasonable to suppose that a small backwardation will exist throughout the first three months of the market's activities, as the Government will remain the main supplier during that period. The price on the opening day was in accordance with most people's revised ideas, but the subsequent fall indicates that those consumers who have not entered into long-term contracts at average prices still expect the price to recede.

In copper the outcome of the Rhodesian arbitration and the fate of the bill to continue the suspension of the U.S. import duty is awaited, as an adverse decision on the former would have far-reaching effects on both the supply and price positions, whilst the non-adoption of the latter would probably mean a lowering of world prices outside the United States.

Closing prices and turnover for the week are given in the following table:—

	December 31		January 8	
	Buyers	Sellers	Buyers	Sellers
Tin				
Cash	£946	£947	£944	£945
Three months	£942	£942 10s.	£936 10s.	£937 10s.
Settlement		£947		£944
Week's turnover		610 tons		505 tons
Lead				
Current month	£106	£106 10s.	£97	£98
Three months	£103 10s.	£104	£94 5s.	£94 10s.
Week's turnover		8,300 tons		3,925 tons
Zinc				
Current month	—	—	£89 5s.	£89 10s.
Three months	—	—	£88 5s.	£88 10s.
Week's turnover	—	—		9,900 tons

JANUARY 8 PRICES

COPPER

Electrolytic £285 0 0 d/d

TIN, LEAD AND ZINC

(See our London Metal Exchange report for Thursday's prices)

ANTIMONY

English (99%) delivered,
10 cwt. and over £225 per ton
Crude (70%) £210 per ton
Ore (60% basis) 20s. — 22s. nom. per unit, c.i.f.

NICKEL

99.5% (home trade) £454 per ton

OTHER METALS

Aluminium, £166 per ton
Bismuth (5 cwt. lots) 17s. 6d. lb.
(min. 2 cwt. ex-warehouse)
Cadmium (Empire), 14s. 4d. lb.
Chromium, 6s. 5d./7s. 6d. lb.
Cobalt, 20s. lb.
Gold, 248s. f.oz.
Iridium, £60 oz. nom.
Magnesium, 2s. 10½d. lb.
Manganese Metal (96%-98%)
2s. 2d./2s. 3d. per lb. d/d
Osmiridium, £40 oz. nom.
Osmium, £65/£70 oz. nom.
Palladium, £7 15s./£8 10s. oz.
Platinum, £27/£33 5s.
Rhodium, £42 10s. oz.
Ruthenium, £25 oz.
Quicksilver, £70 10s./£71 ex-warehouse
Selenium, 25s. nom. per lb.
Silver 73d. f.oz. spot and f'd.
Tellurium, 18s./19s. lb.

ORES, ALLOYS, ETC.

Bismuth 65% 9s. 9d. lb. c.i.f.
60% 9s. 6d. lb. c.i.f.
Chrome Ore—
Rhodesian Metallurgical (lumpy) £13 2s. per ton c.i.f.
" (concentrates) £13 2s. per ton c.i.f.
" Refractory £12 14s. per ton c.i.f.
Baluchistan Metallurgical £14 15s. 6d. per ton c.i.f.
Magnesite, ground calcined .. £26 - £27 d/d
Magnesite, Raw £10 - £11 d/d
Molybdenite (85% basis) .. 105s. 10d. per unit c.i.f.
Wolfram (65%) 370s. c.i.f. U.K. buying
" 392s. 6d.
Scheelite 360s. c.i.f. U.K. buying
" 382s. 6d.
Tungsten Metal Powder .. 30s. 8d. nom. per lb. (home)
(for steel manufacture)
Ferro-tungsten 27/6-28/- nom. per lb. (home)
Carbide, 4-cwt. lots £32 3s. 9d. d/d per ton
Ferro-manganese, home .. £48 12s. 11d. per ton
Manganese Ore U.K.
(48% - 50%) 6s. per unit
Brass Wire 2s. 8½d. per lb. basis
Brass Tubes, solid drawn .. 2s. 2½d. per lb. basis

COMPANY NEWS AND VIEWS

Wankie Coal Price Agreement Raises Protests

Coal is the great talking point in Southern Rhodesia now. Before leaving for London to discuss methods of raising extra capital, the chairman of the Wankie Colliery Company, Mr. Robert Foot, announced a substantial increase in the price at pithead. Although the new average price of around 20s. a ton may seem small by British standards, and is believed to be still the lowest in the world with the single exception of South Africa, there have been many protests from consumers and questions are likely to be asked when Parliament resumes towards the end of January. The City electrical engineer in Salisbury has estimated that domestic consumers' bills will go up by 7 per cent. as a direct result of the coal price increase and it is generally believed that railway tariffs will have to be adjusted to meet an expenditure increase of about £180,000 a year in the accounts of the Rhodesia Railways.

Nor has the chorus of protests been solely confined to Southern Rhodesia. Mr. R. A. Nicholson, Economic Secretary to the Northern Rhodesian Government, at the beginning of this week said that he was astonished that no official information was given to the Northern Rhodesian Government concerning the negotiations between Wankie and the Southern Rhodesian Government which led to the decision to raise the price of Wankie coal by approximately 6s. 8d. per ton.

How far and to what extent these protests will subsequently affect the decision to raise the pithead price is, at present, difficult to assess. It is conceivable however that when the Southern Rhodesian Parliament resumes towards the end of this month an investigation into Wankie's production costs may be demanded. Northern Rhodesia is, of course, deeply concerned with Wankie's operations as it is the only source of supply for Northern Rhodesian consumers. The Northern Rhodesian Government is equally concerned as a very large portion of its revenues are derived from the Copperbelt companies whose copper production is dependent on adequate coal supplies being made available. Against this background Mr. Nicholson's protest may be considered more as a protest against lack of co-operation at Government levels rather than a protest at the price increase.

Ashanti's Chairman Impressed by Gold Coast Situation

Major General Sir Edward L. Spears, chairman of Ashanti Goldfields Corporation, at a press conference held in London yesterday gave his impressions of the West African scene gained during his recent visit to the Gold Coast.

Comparing his current reactions to those formed two years ago—the time of his last visit—General Spears said what impressed him most was the infinitely better atmosphere prevailing. Awareness of the colour differences was rapidly diminishing; a sense of responsibility was being assumed which was in sharp contrast to the general attitude shown during his last visit; and, all in all, there was a will to co-operate on every side. Indeed, General Spears declared that "The West Coast African had made a pretty good fist of things."

This encouraging environment was reflected in an improved output per man but it was also due, he thought, to the firm hand which the Ashanti Goldfields group had shown to the policy of the Gold Coast labour unions which had not furthered the advancement of the African nor benefitted the mining industry. In any case, absenteeism over the last ten years has diminished by 20 per cent.

Referring to the Volta River scheme, he said that one of the problems it raised was that of the availability of labour. If the scheme was pushed ahead too quickly and, in consequence, diverted too much man-power, and increased the cost of living still further, a situation might well arise where the Gold Coast had a vast amount of electrical power but no industries to benefit from it.

Turning to the mining industry, he said that the days when the Gold Coast could be called the "white man's grave" were over. Figures for Ashanti showed that during 1951-1952 time lost by Europeans through illness and accidents was only 0.37 per cent.—a figure which would be difficult to match anywhere.

Recent Copperbelt Activities

The first sub-vertical shaft in Northern Rhodesia, now being sunk at Nkana at the rate of five feet a day, will introduce deep-level mining on the Copperbelt, writes our Southern Rhodesian correspondent from Salisbury under date of December 22. When present plans are completed towards the end of 1953, this particular shaft will extend to 3,640 feet below the surface. Subsequent diamond drilling may reveal payable ore at even greater depth. A refrigerator plant will be installed at the 2,370 ft. station to lower the temperature and considerable development work will be necessary before deep-level production of copper and cobalt starts some time in 1957.

Meanwhile, the Kansanshi Mine, developed many years ago and then abandoned, is being re-opened. The old main shaft is being reconditioned and development work is proceeding at the 300 ft. level. Diamond drills are in action to prove the sulphide ores at depth.

Two shafts are being sunk at each of the two new copper mines, Chibuluma and Baluba. Diamond drilling is being carried out over a very large area and test holes will be sunk to determine the best positions for the shafts of the Bancroft Mine at Kirika Bomwe, and Konkola 15 miles north of Nchanga.

Large-scale prospecting to the west and south of the Copperbelt is being conducted by Mwinilunga Mines, Kadola Mines and Luapula Mines.

Results from Tronoh-Malayan Tin Group

Malayan Tin Dredging, Southern Malayan Tin Dredging, Ayer Hitam and Sungei Besi Mines, four of the companies belonging to the Tronoh-Malayan Tin group of mining companies, have now published their report and accounts covering their last financial year.

Malayan Tin Dredging, whose report and accounts covers the year to June 30 last, reported an increase in output from all sources of 821 tons to 1,140 tons. This improvement was reflected in the profit and loss account which showed that proceeds from the sales and stock of tin concentrates advanced from £194,492 to £645,505. Gross revenue was £743,092 against £206,954 and after deducting all the usual charges, including tax liabilities amounting to £66,895 (£53,380), net profit was £208,008 compared with £93,159. Total dividend distribution was raised to 4s. 3d. on the 5s. shares, an increase of 3s. over the preceding year. The carry forward at the financial year-end was £227,358 compared with £192,528 brought in.

Southern Malayan Tin Dredging's report and accounts for the year to June 30 last also showed an expansion in output from all sources, the relevant figures being 2,940 tons compared with 2,674 tons in 1951. Mining costs were higher, as were tax liabilities due to E.P.L., and after providing for all charges, net profit was £448,353 against £498,530. Total dividend distribution amounted to 6s. per 5s. share, an increase of 1s. per share over the preceding year. The carry forward at the financial year-end was £148,806 compared with £112,598 brought in.

Ayer Hitam's report and accounts for the year to June 30 last revealed that production of tin concentrates shot ahead from 894 tons to 1,769 tons. The profit and loss account mirrored this healthy expansion and gross revenue at £1,026,406 was nearly double the preceding year's figure of £613,455. Taxation liabilities, unfortunately, were also much higher and after providing for all outgoings, net profit was £349,697 compared with £209,330. Total dividend distribution was 5s. 6d. per 5s. share, an increase of 2s. 3d. per share. The carry forward at the financial year-end was £129,195 against £91,594 brought in.

Sungei Besi Mines, whose report and accounts deals with operations for the year to March 31 last, showed a net profit, after providing for all charges including taxation, of £136,818 compared with £164,846. Total dividend payments amounted to 3s. 7d. per 4s. share compared with 2s. 6d. in the previous year. The carry forward at the financial year-end was £71,296 compared with £51,542 brought in.

More detailed notes on these four companies will appear in next week's issue.

Company Shorts

F. S. Geduld's No. 2 Shaft Again Flooded.—In an announcement dated December 29, Free State Geduld Mines announced that its No. 2 shaft had been dewatered to below the bottom station on the 5,350 ft. level. Inspection of this station, at which the inrush of water took place on September 9, indicated, this announcement stated, that cementation of the main fissure had been successful.

However, on Wednesday of this week F. S. Geduld announced a further heavy inrush of water at the 5,350 ft. level in the No. 2 shaft, and added that it had been decided to insert a concrete plug in the shaft to seal off this level. In order to carry out this operation, the announcement stated, that it would be necessary to allow the water to rise in the shaft until the flow was reversed.

This latter statement coming so soon after the announcement that the shaft had been dewatered and that development towards the reef was expected to begin some time next month has caused a good deal of disappointment. But whether or not the present inrush of water is on the same scale as the original flooding is not known as we go to press. In any event, the market reflected its initial sentiments and F. S. Geduld was marked down another 1s. 3d. to £2½ while the options fell to 9s.

Rhodesian Anglo American Share Exchange and Cash Issue.—Rhodesian Anglo American have announced that a total of 686,783 new 10s. shares of the company are being issued to the Anglo American Corporation of South Africa and its associates.

Of the new shares 486,466 are in exchange for substantial holdings of Tanganyika Concessions and Rhodesia Broken Hill Development Co. and for certain smaller holdings in Mufulira Copper Mines, Rhodesian Alloys and Lubimbi Coal Areas, and the remainder, 200,317 shares are being subscribed in cash at 53s. 6d. per share.

The exchange and the subscription of the new shares were arranged on the basis of the respective market prices ruling at November 20, and, in the case of the unquoted shares, on the directors' valuation at that date. The offer was subject to the consent of the United Kingdom Treasury, which has now been granted.

The 686,783 newly issued shares have been converted into that number of units of stock at 10s. each, and the issued capital of this company is now £6,300,000 ordinary stock transferable in units of 10s. each, and there remain in reserve 400,000 shares of 10s. each.

American Smelting Terminates Lead-zinc Option in S. Nigeria.—Mines Development Syndicate (West Africa) have announced that it has received notice from the American Smelting and Refining Co. terminating the option agreement over the lead-zinc properties in Southern Nigeria. During the past three years, American Smelting and Refining Co. has expended considerable sums on the examination and testing of the properties, the announcement stated, and that the existence of payable ore bodies had been established. In view of the fact that licence and lease terms were agreed with the Nigerian Government earlier this year as well as an agreed scale of royalties payable on production, the announcement comes as somewhat of a surprise.

Companies holding varying proportions in the Syndicate which had acquired the Ogoja leases on which A. S. & R. had carried out its investigations are Gold & Base Metals, London & African Mining, National Mining, United Tin of Nigeria, Ribon Valley (Nigeria), Ex-Lands (Nigeria) and Nigerian Consolidated.

Pattani Tin Sells Its Hydraulicing Area.—At the annual meeting of Pattani Tin held in London on December 29, Capt. H. S. M. Harrison-Wallis, R.N., chairman, said that the company's hydraulicing area in Siam had been sold for the sum of £5,000, and that negotiations for the sale of the company's dredge were proceeding and might be successful. If not, he added, it was hoped to find a buyer by advertising on a world wide basis.

The dredge offered for sale was in a redundant area and to move it would cost somewhere between £150,000 and £200,000. He was sure the price received for the dredge would be much less than the amount shown in the balance sheet.

Nigel Van Ryn Passes Dividend.—Nigel Van Ryn Reefs in a preliminary statement has announced that no dividend will be paid for the year to September 30 last. This compares with a dividend of 5 per cent for the previous year.

The credit balance of the profit and loss account was £13,319 (£24,044) and after bringing in £7,973 (£9,808), the available balance was £21,292 compared with £33,852. Provision for depreciation of investments rose to £63,904 against £8,030. There was no taxation adjustments in respect of previous years

against £418 in 1951, and no allocation to reserve against £10,000. The carry forward at the financial year end showed a debit of £42,612 compared with a credit of £7,973 brought in.

Tanganyika Central Gold Mines.—This company's report and accounts for the year to June 30 last showed that a loss of £2,560 was incurred on the year's operations thereby increasing the debit balance on profit and loss account to be carried forward from £16,942 to £19,502.

Star Explorations Reduces its Credit Balance.—Star Explorations for the year to October 31 last incurred a net loss of £25,034 thus reducing the credit balance carried forward to £11,020. Mr. M. Woodbine Parish is chairman and managing director.

Ashanti-Obuasi Reefs May Give Up Its Patienza Concession.—The report and accounts of Ashanti-Obuasi covering the fifteen months to March 31 last, stated that at the annual meeting to be held at the end of December shareholders will be asked to empower the directors to give up or otherwise deal during the current year with its lease on the Patienza Concession. The lease stands in the company's books at £1. Mr. M. W. Woodbine Parish is chairman.

Corderoy Mines to Extend Option Period.—Corderoy Mines is convening separate meetings of its shareholders and holders of option certificates to consider a resolution to extend the options to take up shares at 1s. 6d. from December 31, 1952, to December 31, 1953. The circular states that no allotment of shares can be made in respect of the exercise of options until the necessary permission is granted by the Treasury.

No Production at Loloma Last Quarter.—Austral Development have announced that there was no production during the 12 weeks to November 12 last at Loloma (Fiji) Gold Mine, N.L.

NOVEMBER TIN OUTPUT IN TONS OF TIN CONCENTRATES

Company	Nov.	Months since year end	Financial Year to Date		Company	Nov.	Months since year end	Financial Year to Date	
			This	Last				This	Last
EASTERN					Nigeria (contd.)				
Ampat	49	11	830	978	Amal. Tin ...	54*	8	325	180
Bangrin	88	11	584	1016	Bisichi	43	11	505	590
Batu S.	14	2	38	58	"	11*	11	141	148
Beruntal	95	7	562	337	Ex-Lands	80	11	541	525
Jelapang	17	11	296	276	Filani	7	11	77	48
Kampung	20	8	207	284	Jantar	20	2	40	40
Kamunting	151	8	1421	1664	"	20*	2	38	34
Kinta K.	17	8	96	142	Jos	14	4	55	58
Kinta Tin	31	11	274	348	Kaduna P.	4	11	72	62
Klang River...	29	8	241	237	Kaduna S.	34	11	250	234
Kuala K.	194	8	1360	1466	Keffi	30	8	191	156
Kuchai	76	2	130	260	N'guta Ex.	8	11	82	94
Larut	53	11	670	817	N'guta K.	9	11	125	157
Lower Perak ..	143	7	631	511	N'guta T.	17	11	264	227
Malaysia	6	8	46	40	"	11*	11	43	48
Pahang	220	4	880	960	Ribon	12	8	69	47
Rahmat	39	5	195	244	Rukuba	2	8	15	15
Rantau	94	5	395	270	S. Bukuru	5	11	54	55
Rawang Con.	79	8	445	468	Tin Fields	2	8	14	17
Rawang Tin	77	8	543	820	U. Tin	11	5	59	50
Renong	27	5	113	397	MISC.				
S. Kinta	362	8	3068	2551	Beralit ... Tin	9	8	88	33
Tambah	12	11	129	150	"	150†	8	1442	1534
Tanjong	66	11	914	1144	Geevor	50	8	380	485
Tongkah	45	5	328	249	S. Crofty Tin	47	11	428	275
					"	1½†	11	3	5
NIGERIA									
Amal. Tin ...	453	8	2888	3062					

*Columbite

†Wolfram

Mr. R. P. W. Adean has been appointed director of New Union Goldfields.

Mr. Garth B. Adeney has retired from the boards of Siamese Tin Syndicate and Bangrin Tin Dredging.

Sir Ulick F. C. Alexander has retired from the board of Kentan Gold Areas.

Mr. R. Sancoft Baker has resigned as a director of Ipoh Tin Dredging, Sungei Kinta Tin Dredging, and Temoh Tin Dredging as from January 1, 1953.

Mr. R. W. Cooper, chairman of the British Aluminium Co. has resigned his directorship and is succeeded as chairman by Viscount Portal of Hungerford. **Mr. E. F. O. Gascoyne** has been appointed a director of the company.

Mr. Stephen Justice Constance has been appointed a director of Johannesburg Consolidated Investment.

Henry Gardner & Co. Ltd. have announced that they are resuming publication of their Weekly Metal Market Report, after a lapse of over thirteen years. The first number will be available to-day.

Mr. E. D. B. Hawksley has been appointed secretary to the British South Africa Co. and **Mr. H. Davies** and **Mr. W. E. D. Smedley** have been appointed chief accountant and assistant secretary respectively.

Mr. H. C. Koch has been appointed a director and chairman of East Daggafontein Mines in place of Mr. Smith, while on the board of Rand Selection Corporation **Mr. W. Marshall Clark** succeeds Mr. Smith as director and **Mr. K. C. Acutt** replaces him as chairman. **Mr. P. J. L. Crokaert** has been appointed a director of Anglo American Investment Trust in place of Mr. Smith, who has been replaced on the boards of Brakpan Mines, Springs Mines and Vaal Reefs Exploration & Mining by **Mr. P. Y. H. Smith** and on the board of Daggafontein Mines by **Mr. W. D. Wilson**.

Mr. J. H. Mason has been appointed secretary of Vivian, Younger and Bond Limited in place of **Mr. W. H. Monier-Williams**, who has retired.

Mr. J. Allan Perham has been appointed managing director of Atlas Diesel Co., Ltd. in succession to **Mr. E. B. F. Johnson**, who has been appointed Managing Director of Swedish Atlas Compressed Air Ltd., the Swedish sales organization of A. B. Atlas Diesel.

Mr. G. V. R. Richdale leaves Central Mining.—The Central Mining Investment Corporation has announced that **Mr. G. V. R. Richdale**, with its full agreement, has accepted an offer from **Mr. C. W. Engelhard** to become associated with him in the direction

and administration of the precious metal group known as Engelhard Industries, which includes Baker and Co. Inc. of Newark, New Jersey. **Mr. Richdale** will relinquish his appointment with the Corporation in Johannesburg at the end of July 1953 but will remain on the boards of Transvaal Gold Mining Estates Ltd. and South African Forest Investments Ltd.

Mr. M. W. Rush has been appointed director of Orange Free State Investment Trust and West Rand Investment Trust in place of **Mr. R. Kitzinger**, who has resigned.

Mr. John N. Savory has been appointed a director of Idris Hydraulic.

The Hon. H. V. Smith, managing director Anglo American Corporation of South Africa, has resigned his chairmanship and seat on the boards of East Daggafontein Mines, and Rand Selection Corporation, and his directorships of African & European Investment Co., Anglo American Investment Trust, Brakpan Mines, Daggafontein Mines, Springs Mines and Vaal Reefs Exploration & Mining Co. **Mr. Smith** has resigned from the above mentioned boards on returning to take up residence in England, but he is retaining his seat on the board of Anglo American Corporation of South Africa.

Mr. A. Trébucq has relinquished the position of joint managing director of H. J. Enthoven & Sons, and has been appointed deputy chairman from January 1. **Mr. K. L. Cobb** becomes sole managing director from that date.

Mr. Stanley Wickett retired from his position as chairman of Gopeng Consolidated, Rambutan, Tekka, Tekka-Taiping, Pengkalen and Seremban on December 31, but will retain his seat on the board of each of these companies. **Mr. Donald Woodroffe Thomas** succeeds **Mr. Wickett** as chairman of the above companies.

ANGLO AMERICAN CORPORATION OF SOUTH AFRICA LIMITED GROUP

DIVIDENDS ON STOCK AND SHARES TO BEARER

With reference to the notices of declaration of dividends published in the Press on 11th December, 1952, the following information is published for the guidance of holders of stock and share warrants to bearer.

The undermentioned dividends will be paid in British currency at par on or after 6th February, 1953, against surrender of the appropriate coupons at Barclays Bank (Dominion, Colonial & Overseas), Circus Place, London Wall, London, E.C.2, or at the equivalent in French currency at Banque de l'Union Parisienne, 6 and 8 Boulevard Haussmann, Paris, 9e. Listing Forms may be obtained on application at the offices of either of these paying agents.

Coupons presented for payment at Barclays Bank (Dominion, Colonial & Overseas) will, unless accompanied by Inland Revenue declarations, be paid at the amounts shown in Column No. 12, which are arrived at after deduction of United Kingdom Income Tax (Column 11) at rates reduced to allow for relief in respect of Dominion Taxes. Coupons must be left four clear days for examination and may be presented any day (Saturday excepted) between the hours of 11 a.m. and 2 p.m.

NAME OF COMPANY (Each incorporated in the Union of South Africa)	Class of Capital	Dividend No.	Coupon No.	Amount of dividend declared per £1 Stock or per Share	South African non-resident Shareholders' tax deducted per £1 Stock or per Share	Amount of dividend after deduction of S.A. non-resident Shareholders' tax per £1 Stock or per Share	Rate of relief authorised in the £	GROSS Amount of dividend for United Kingdom tax purposes	Rate of deduction of United Kingdom Income Tax in the £	Amount of United Kingdom Income Tax deducted per £1 Stock or per Share	NET Amount of dividend per £1 Stock or per Share
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
				s. d.	Pence	s. d.	s. d.	s. d.	s. d.	Pence	s. d.
Anglo American Corporation of South Africa, Limited	6% Cum. Prd. Stock	47	47	0 7.2	0.4374	0 6.7626	1 2.58	0 7.2	8 3.42	2.9826	0 3.78
Brakpan Mines Limited	Shares	80	80	0 9	0.675	0 8.325	4 9	0 10.918	4 9	2.593	0 5.732
Daggafontein Mines Limited	Shares	40	40	3 0	2.7	2 9.3	4 9	3 7.67	4 9	10.37	1 10.93
The South African Land and Exploration Company, Limited	Shares	29	29	1 8	1.575	1 7.425	4 9	2 1.475	4 9	6.05	1 1.375
Springes Mines, Limited	Shares	62	62	0 3	0.225	0 2.775	4 9	0 3.639	4 9	0.864	0 1.911

For and on behalf of ANGLO AMERICAN CORPORATION OF SOUTH AFRICA, LIMITED.

11 Old Jewry, London, E.C.2. 6th January, 1953.

W. E. GROVES, London Secretary.

The following notes are added at the request of The Commissioners of Inland Revenue:

- (i) As regards the dividends payable by Brakpan Mines Limited, Daggafontein Mines Limited, The South African Land and Exploration Company, Limited, and Springs Mines Limited, under the provisions of Section 348 and the 17th Schedule of the Income Tax Act, 1952, relating to "unilateral relief" from double taxation, South African tax applicable to the dividend is allowable as a credit against the United Kingdom tax payable in respect of the dividend. The deduction of tax at the reduced rate of 4s. 9d. in the £ instead of at the standard rate of 9s. 6d. in the £ represents a provisional allowance of credit at the rate of 4s. 9d. in the £. The final rate of credit allowable to a particular shareholder depends on his personal rate of tax; it may be more or less than 4s. 9d. in the £ but must not exceed three-quarters of the personal rate. Revision of the credit involves a corresponding adjustment of the amount shown above as the GROSS amount of the dividend for United Kingdom tax purposes.
- (ii) As regards the dividends payable by Anglo American Corporation of South Africa, Limited, under the provisions of Section 348 and the 17th Schedule of the Income Tax Act, 1952, relating to "unilateral relief" from double taxation, South African tax applicable to the dividend is allowable as a credit against the United Kingdom tax payable in respect of the dividend. The deduction of tax at the reduced rate of 8s. 3.42d. in the £ instead of at the standard rate of 9s. 6d. in the £ represents a provisional allowance of credit at the rate of 1s. 2.58d. in the £ in respect of South African Non-Resident Shareholders' Tax. The final rate of credit allowable to a particular shareholder depends on his personal rate of tax; it may be less than 1s. 2.58d. in the £ as it must not exceed three-quarters of the personal rate. Revision of the credit involves a corresponding adjustment of the amount shown above as the GROSS amount of the dividend for United Kingdom tax purposes.

RAND SELECTION CORPORATION

The sixty-first annual general meeting of Rand Selection Corporation, Ltd., was held on December 31 in Johannesburg. Mr. W. D. Wilson, who presided, in the course of his speech said:

Revenue, excluding sales of freehold property, totalled £805,314 for the year, which was £74,000 less than the previous year, but as property sales were £31,000 higher, the total earnings at £866,000 were only £44,000 lower. Throughout most of the year market conditions were deplorably bad, and as a result there was little opportunity for sharedealing. More of our revenue than usual was, therefore, derived from dividends.

As a result of so large a proportion of our revenue being from dividends the amount provided for taxation in the appropriation account is only £54,000, which is £76,000 less than last year, and after providing for the dividend of 2s. which was declared in November, 1952, and for directors' special remuneration, the amount unappropriated and transferred to the balance-sheet is £440,000 compared with £364,500 last year.

You will see from the balance sheet that shares and investments in other concerns stand in our books at £4,367,000, which is £251,000 higher than at September 30, 1951.

Witwatersrand—The corporation is mainly interested in the producing mines of the Anglo American Corporation group. The average costs of these mines for the three months which ended on September 30, 1952, was 31s. 3d. per ton milled, the comparative figure of all producing mines on the Witwatersrand for the same period being 33s. 11d. The latter figure shows an increase of over 2s. per ton milled when compared with the corresponding cost for 1951. During the current year the monthly average cost per ton milled for the Witwatersrand has fluctuated between 33s. 4d. and 34s. 5d. (excluding February), while the tonnage milled was practically unchanged, from which it may be deduced that the curve of rising costs shows a tendency to flatten.

The shortage in the supply of native labour, which has caused concern for some years is now having most serious effects. At the end of November, 1951, the total labour force of the industry was 285,780, while at the end of November, 1952, it was 276,704.

During 1952 the first uranium plant was opened by the Prime Minister. The great importance of this event to the Union of South Africa and to the industry as a whole has been given wide publicity. The corporation has considerable direct and indirect interests in the Daggafontein, Blyvooruitzicht and Western Reefs mines, all of which are scheduled to produce uranium.

ORANGE FREE STATE

Progress in the Orange Free State during the last year has been steady and encouraging.

Perhaps the most significant achievement this year has been the financing of the Free State Geduld, Welkom, President Steyn and President Brand mines. The total amount of money raised or provided for these four mines in 1952 was £17,500,000, of which a maximum of £10,500,000 will come from shareholders. The money raised will enable these mines to finance the construction of reduction plants having capacities of 125,000 tons per month each and the carrying out of the very substantial development programmes which are necessary if large tonnages are to be milled.

Copper prices remain at a very high level, the current selling price of the British Ministry of Supply being £285 per 1. ton, and as a result the Northern Rhodesian copper companies in which your corporation is interested through Rhodesian Anglo American had excellent years.

During the year ended June 30, 1952, Rhodesian Anglo American made a profit, after providing for taxation, of £3,955,000, as compared with £3,310,000 for the previous year. The company paid dividends of 6s. 3d. during 1952, as against a total distribution for 1951 of 5s. 6d.

The profit of Rhokana Corporation, after taxation, increased from £6,765,000 for the year ended June 30, 1951, to £7,861,000 in 1952, while that of Nchanga rose from £3,113,000 for the year ended March 31, 1951, to £6,256,000 in 1952.

The profit of the Rhodesia Broken Hill Development Company, Ltd., after taxation, during the year to December 31, 1951, totalled £3,609,436.

The corporation maintains its interest in the diamond business through a considerable shareholding in Anglo American Investment Trust, Ltd., which company has recently acquired a substantial interest in The Diamond Corporation. Anglo American Investment Trust, Ltd., paid a satisfactory interim dividend. The past year has been most successful from a diamond sales point of view, which, at £53,700,000 for the first nine months of 1952, were somewhat higher than they were during the equivalent period of 1951.

It is anticipated that your corporation will continue to receive substantial dividends from its diamond interest.

The report and accounts were adopted.



OMCOL

The Trade Mark of
THE OAKLAND GROUP

OAKLAND METAL CO. LTD.

Buyers
&
Sellers

- Iron Ore
- Lead Ore
- Antimony Ore
- Zinc Ore
- Rutile
- Graphite
- Ilmenite
- Sillimanite
- Kyanite
- Asbestos Fibres
- Manganese Dioxide
- Industrial and Laboratory Chemicals
- Non-Ferrous Scrap and Residues
- SPECIALITIES—Complex Residues and Ores containing Tin, Nickel, Cobalt, Tungsten, Cadmium, etc.

A.O. METAL EXPORTERS LTD.

Shippers
Exporters
Importers

- Pig Iron
- Machinery
- Cycles and Accessories
- Hardware, Shoe Grindery
- Ship's Tackle
- Building Materials, Nails, Rivets, Tacks
- STEEL, ALUMINIUM, COPPER, BRASS
- & BRONZE in the following forms—
- Sheets (Flat and Corrugated)
- Angles, Joists
- Rounds, Tees
- Tubes, Strips

CEIRIOG METAL CO. LTD.

Manufacturers

- Aluminium Powders
- Aluminium Granules

All Offers and Enquiries to Administrative Offices—

**94 NEW BOND STREET,
LONDON, W.1**

Cables: AMOMET, LONDON Phone: GROsvenor 5241-4

Metal Smelting and Refining Works:
OAKLAND WORKS, WILLINGTON, DERBYSHIRE

Aluminium Works:
**FELLINGERRIG FACTORY, MACHYNLLETH,
MONTGOMERYSHIRE**

Mining Matters

Robert Hudson Ltd. have announced that on December 1 next their London office is moving to 47, Victoria Street, London, S.W.1. The telephone number will be changed to ABBey 7127, and the telegraphic address to "Raletrux Sowest."

Consolidated Mines (Investments).—Consolidated Mines (Investments) has been registered as a private company with a nominal capital of £10,000 in £1 shares. The newly formed company proposes to carry on the business of a finance and trust company and issuing house in all its branches. Power is taken to carry on the business of farmers, graziers, planters, miners, coal and iron masters, quarry owners, brickmakers, dealers in gold and silver, diamonds, precious metals, stones, etc. The registered office is at 11 Old Jewry, London, E.C.

Walker Bros. (Wigan) Ltd. have announced that as from the beginning of this year they will cease to have an office in Newcastle. For a number of years this office was at 90, Pilgrim Street, Newcastle-on-Tyne. The company has also announced that their South Wales representative, **Mr. Sidney B. Haslam**, 93, St. Mary's Street, Cardiff has retired. In the circumstances, and pending further arrangements, all enquiries for mining machinery formerly routed through the above two agencies should be sent to the company's head office, Pagefield Iron Works, Wigan, Lancashire.

W. E. SINCLAIR, M.I.M.E.
Consulting Mining Engineer
South & East Africa & Rhodesia
P.O. Box 1183, JOHANNESBURG

MINING ENGINEER required for service in West Africa. Prospecting and geological experience desirable. Tours 12-18 months, leave on full pay, salary according to qualifications and experience. Write giving full particulars to Box 716, c/o Dawson's, 129 Cannon Street, E.C.4.

YOUNG MINING ENGINEER required for Sierra Leone, West Africa. Free passages out and home, tours 12-18 months, leave on full pay, quarters, etc., provided. Write full particulars of training and experience to Box 715, c/o Dawson's, 129 Cannon Street, E.C.4.

The World's Greatest Bookshop

FOYLES
* FOR BOOKS *

Large dept. for Technical Books

New, secondhand and rare Books on every subject. Stock of over 3 million volumes
Subscriptions taken for British, American & Continental magazines

119-125 CHARING CROSS RD., LONDON, W.C.2
Gerrard 5680 (16 lines) * Open 9-6 including Saturdays
Two minutes from Tottenham Court Road station

THE CENTRAL MINING-RAND MINES GROUP

DIVIDENDS ON SHARES TO BEARER

The following dividends will be paid on or after 6th February, 1953, after surrender of the appropriate coupons at the London Office of the Companies, 4 London Wall Buildings, E.C.2, or, with the exception of the Company marked with an asterisk, at the Crédit Lyonnais, Paris.

The dividends will be payable in British currency, at par, at the rates declared in South African currency (Column No. 4), less South African non-resident shareholders' tax (Column No. 5).

COUPONS presented for payment at the London Office will, unless accompanied by Inland Revenue declarations, be paid at the rates shown in Column No. 12, which are arrived at after deduction of United Kingdom income tax (Column No. 11), at rates reduced to allow of relief in respect of Dominion taxes.

COUPONS presented at the Crédit Lyonnais, Paris, will be subject to the deduction of French income tax from the amounts of the dividends shown in Column No. 6.

NAME OF COMPANY (Each incorporated in the Union of South Africa.)	Dividend No.	Coupon No.	Amount of dividend declared per share.	Deduction in respect of South African non-resident shareholders' tax, per share	Amount of dividend after such deduction, per share.	Provisional allowance of credit authorised in the £.	Gross amount of dividend, per share.	Rate of South African taxation applicable in the £.	Rate of deduction of United Kingdom income tax in the £.	Amount of United Kingdom income tax deducted, per share.	Net amount of dividend, per share.
(1)	(2)	(3)	(4) s. d.	(5) s. d.	(6) s. d.	(7) s. d.	(8) s. d.	(9) s. d.	(10) s. d.	(11) s. d.	(12) s. d.
City Deep, Limited.....	66	66	1 0	0 9	11 1	4 9	1 2 56	17 4	4 9	3 46	7 64
Consolidated M. Reef M. & E., Ltd.	86	83	2 3	2 025	2 0 975	4 9	2 8 754	18 4	4 9	7 779	1 5 196
Crown Mines, Limited.....	103	103	2 6	2 25	2 3 75	4 9	3 0 39	17 2	4 9	8 64	1 7 11
Durban Roodepoort Deep, Limited.....	64	64	2 0	1 8	1 10 2	4 9	2 5 11	18 9	4 9	6 91	1 3 29
East Rand Prop. Mines, Limited.....	66	67	2 6	2 25	2 3 75	4 9	3 0 39	19 9	4 9	8 64	1 7 11
Geldenhuis Deep, Limited.....	81	81	1 0	0 9	11 1	4 9	1 2 56	5 9	4 9	3 46	7 64
Modderfontein East, Ltd.....	51	32	1 6	1 35	1 4 65	4 9	1 9 84	19 5	4 9	5 19	11 46
Rand Mines, Limited.....	99	99	3 0	2 7	2 9 3	4 9	3 7 67	..	4 9	10 37	1 10 93
Rose Deep, Ltd.....	95	95	1 3	1 125	1 1 875	4 9	1 6 197	17 11	4 9	4 322	9 553
Transvaal Con. Land & Ex. Co., Ltd.	30	30	1 9	1 575	1 7 425	4 9	2 1 475	7 2	4 9	6 050	1 1 375
*Transvaal Gold M. Ests. Ltd.....	84	84	1 9	0 675	8 325	2 7	9 56	..	5 11	3 306	5 019

†These rates also apply to the dividends paid by the seven Companies concerned on 8th August, 1952.

Coupons required to be paid at the London Office must be left at least four clear days for examination and may be presented any day (Saturdays excepted) between the hours of 11 and 2. Depositors will be notified at the time of deposit when the cheques will be ready.

Listing forms may be had on application.

Where no figure is shown in Column No. 9, the rates of South African taxation applicable in the £ cannot yet be ascertained, as they are dependent on the final particulars of the South African taxation of the companies concerned which are not yet available.

Note: The Companies have been asked by the Commissioners of Inland Revenue to state:—

Under the provisions of Section 348 and the 17th Schedule of the Income Tax Act, 1952, relating to "unilateral relief" from double taxation, South African tax applicable to the dividends is allowable as a credit against the United Kingdom tax payable in respect of the dividends. The deduction of tax at the reduced rates in the £ (Column No. 10) instead of at the Standard Rate of 9s. 6d. in the £ represents a provisional allowance of credit at the rates shown in Column No. 7. The final rate of credit allowable to a particular shareholder depends on his personal rate of tax; it may be more or less than the rates shown in Column No. 7 but must not exceed 3/4ths of the personal rate. Revision of the credit involves corresponding adjustments of the gross amounts of the dividends for United Kingdom tax purposes (Column No. 8).

THE GROSS AMOUNT OF THE DIVIDEND, PER SHARE, TO BE INCLUDED IN ANY STATEMENT OF TOTAL INCOME FOR UNITED KINGDOM INCOME TAX PURPOSES IS SHOWN IN COLUMN No. 8.

4 London Wall Buildings, London, E.C.2.
5th January, 1953.

A. MOIR & CO.,
London Secretaries of the above-named Companies.

Metal and Mineral Trades

THE ANGLO CHEMICAL & ORE COMPANY LIMITED

PALMERSTON HOUSE, BISHOPSGATE, LONDON, E.C.2

IMPORTERS & EXPORTERS

Minerals • Ores • Residues • Chemicals

Non-Ferrous Metals & Scrap

Telephone :
LONDON WALL 7255 (5 Lines)

Telegrams :
CHEMORE, LONDON

CONSOLIDATED TIN SMELTERS, LIMITED.

ST. SWITHIN'S HOUSE, 11/12 ST. SWITHIN'S LANE, LONDON, E.C.4

Telephone: MANston House 2164/7

Telegrams: CONSMELTER, PHONE LONDON

PROPRIETORS OF THE FOLLOWING BRANDS OF LAMB & FLAG AND STRAITS TIN

ENGLISH
(COMMON & REFINED)

**CORNISH
MELLANEAR
PENPOL**

STRAITS E. S. COY., LTD., PENANG

BUYERS OF ALL CLASSES OF TIN ORES

Sole Selling Agents: **VIVIAN, YOUNGER & BOND, LIMITED**
8 BASINGHALL STREET, LONDON, E.C.2

Telephone: MONarch 7221/7

Established 1797

Members of the London Metal Exchange

DERBY & Co., Ltd.

Specialists in

WOLFRAM, SCHEELITE, CHROME, MOLYBDENITE, TANTALITE, COLUMBITE
RUTILE, ILMENITE, BERYL, ZIRCON AND OTHER MINERALS.

Smelters and Refiners of

GOLD, SILVER, PLATINUM, PALLADIUM, OSMIUM, IRIIDIUM, ETC.

Buyers of

MINERALS, ORES, CONCENTRATES, SWEEPS, LEMELS AND RESIDUES containing
GOLD, SILVER, PLATINUM, COPPER, TIN, ZINC, LEAD.

Smelting and Refining Works:

BRIMSDOWN, MIDDLESEX

City Office: **11-12 ST. SWITHIN'S LANE, E.C.4**

Telephone: AVENUE 5272 (20 lines)

Also at **NEW YORK — ADELAIDE — JOHANNESBURG**

Cable Address: WAHCHANG, NEW YORK

WAH CHANG CORPORATION

(FORMERLY WAH CHANG TRADING CORPORATION)

233 BROADWAY

NEW YORK 7, NEW YORK

TUNGSTEN TIN

BUYERS

Tungsten Concentrates, Tungsten Tin Concentrates
Mixed Tungsten Ores
Tungsten Tailings, Scrap, Tips, Grindings
Tin Concentrates—Tin Dross, Tin Furnace Bottoms

SELLERS

Tungsten Concentrates to Buyers' Specifications
Tungsten Salts, Tungsten Powder
Tungsten Rods and Wires
Tin Ingots, Tin Oxides, Tin Chlorides

PLANT—GLEN COVE, NEW YORK

GEORGE T. HOLLOWAY & CO. LTD.

**METALLURGISTS & ASSAYERS,
ORE TESTING, WORKS AND
METALLURGICAL RESEARCH LABORATORIES**
Atlas Road, Victoria Road, Acton,
LONDON N.W.10

Telephone No.:
ELGAR 5202

Tels. & Cables:
NEOLITHIC LONDON

THE ANGLO METAL COMPANY LIMITED

2 & 3, CROSBY SQUARE,
LONDON, E.C.3

(Members of the London Metal Exchange)

**NON-FERROUS METALS
ORES & CONCENTRATES
BULLION**

Telephone:
LONDON WALL 6341
(Private Branch Exchange)

Telegrams:
NUCLIFORM PHONE
LONDON

Cables: NUCLIFORM, LONDON

BASSETT SMITH & Co. Ltd.

Telegrams:
"BASSETT, PHONE, LONDON."

Telephone:
MANSON HOUSE 4401/3.

(Incorporating George Smith & Son)

15/18 LIME ST., LONDON, E.C.3

METALS,

ORES (Copper, Zinc, Lead, &c., Complex),
RESIDUES, SKIMMINGS & ASHES
NON-FERROUS SCRAP

Cables: AYRTON—NEW YORK Telephone: CIRCLE 6—7667

AYRTON METAL COMPANY

30 ROCKEFELLER PLAZA INC. NEW YORK

Members of Commodity Exchange, Inc., American Tin Trade Association, Inc.

**IMPORTERS OF
WOLFRAM — MANGANESE
CHROME—ANTIMONY ORES**

**DEALERS IN
PLATINUM — GOLD — SILVER**
Buyers of crude platinum

U.S. Agents for
AYRTON METALS LTD. 10—13 Dominion St. London, E.C.2
MEMBERS OF THE LONDON METAL EXCHANGE

BARNET NON-FERROUS METAL CO., LTD.

Elektron House, Vale Drive, Barnet, Herts. Phone: Barnet 5187 and 3901

STOCKISTS OF: Aluminium, Brass and Copper
BUYERS OF: all non-ferrous scrap

The RIGHT firm to deal with

RHONDDA METAL CO. LTD.

1 HAY HILL, BERKELEY SQ. LONDON, W.1

Works: PORTH, GLAM.

**PHOSPHOR COPPER
PHOSPHOR BRONZE, LEAD BRONZE,
GUNMETAL, BRASS**

Telephone: MAYFAIR 4654

Cables: RONDAMET

WOLFRAM ORE TIN ORE

FELIX KRAMARSKY CORPORATION

39 BROADWAY
NEW YORK 6, N.Y.

Cable Address: Orewolfram

A. STRAUSS & CO. LTD.

FOUNDED 1875

PLANTATION HOUSE, MINCING LANE, E.C.3

Telephone: Avenue 5551

**MERCHANTS, EXPORTERS, IMPORTERS
NON-FERROUS METALS
SCRAP RESIDUES**

METAL REFINERS
Members London Metal Exchange

ESTABLISHED 1869
**BLACKWELL'S
METALLURGICAL WORKS LTD.**
THERMETAL HOUSE, GARSTON, LIVERPOOL 19

**MAKERS OF
FERRO ALLOYS, NON-FERROUS ALLOYS
RARE METALS**

**BUYERS AND CONSUMERS OF
COLUMBITE TANTALITE, TUNGSTEN
MANGANESE and all ORES.**

Works, Garston.

Telegrams: Blackwell, Liverpool

EVERITT & Co. Ltd.

Teleg. Address: Persistent, Liverpool

40 CHAPEL STREET
LIVERPOOL
Phone: 2595 Central

SPECIALITY:

MANGANESE PEROXIDE ORES

We are buyers of:
**WOLFRAM, SCHEELITE, VANADIUM,
MOLYBDENITE, ILMENITE, RUTILE,
ZIRCONIUM and TANTALITE ORES**

Suppliers of:
FERRO-ALLOYS & METALS, NON-FERROUS ALLOYS

Telephone : AMHERST 2211 (six lines)

E. AUSTIN & SONS

(London) LIMITED

ATLAS WHARF
Hackney Wick, London, E.9

Are Buyers of all scrap

**NON-FERROUS METALS,
GUNMETAL, ALUMINIUM,
COPPER, BRASS, LEAD, Etc.**

Manufacturers of
**INGOT BRASS, GUNMETAL
& COPPER ALLOYS, INGOT
LEAD, TYPE METAL, ZINC,
Etc.**

METAL TRADERS LTD.

7 GRACECHURCH ST., LONDON, E.C.3

Telegrams : Serolatam, Stock, London

Telephone : Mansion House 7275/6/7

Buyers and Sellers of
**NON-FERROUS METALS
ORES AND MINERALS**

New York Representative:
Metal Traders Inc., 67 Wall Street

BROOKSIDE METAL CO. LTD.

(Owned by Metal Traders Ltd.)

HONEYPOT LANE, STANMORE, MIDDX.

Telegrams : Aluminium, Stanmore

Telephone : EDGware 1646/7

Buyers and Sellers of
ALL NON-FERROUS METALS
Specialists in ALUMINIUM

**METAL
SUPPLIES**

Ltd

SUPPLIERS OF
**PHOSPHOR COPPER
PHOSPHOR TIN
FERRO ALLOYS
METALLIC CARBIDES & POWDERS
LEAD PRODUCTS
AND ALL OTHER NON-FERROUS METALS**

72 VICTORIA ST. LONDON S.W.1

Phone: VICTORIA 1735 (3 lines).

Grams: METASUPS, WESPHONE.

MINING & CHEMICAL PRODUCTS, LTD.

MANFIELD HOUSE, 376, STRAND, W.C.2

Telephone: Temple Bar 6511/3

Telegrams: "MINCHEPRO, LONDON"

Works: ALPERTON,
WEMBLEY, MIDDLESEX

Buyers of Silver Ores and Concentrates

Smelters and Refiners of

BISMUTH

ORES, RESIDUES & METAL

Manufacturers of:

**FUSIBLE ALLOYS, SOLDER, WHITE METALS,
ANODES OF TIN, CADMIUM and ZINC IN
ALL SHAPES**

Importers and Distributors of:

**ARSENIC · BISMUTH · CADMIUM
INDIUM · SELENIUM · TELLURIUM
THALLIUM**

S. J. BARNETT & Co. Ltd.

GREENWICH HOUSE,

10/13, NEWGATE STREET, LONDON E.C.1

Telephone: City 8401 (7 lines)

ORES - METALS - RESIDUES

THE STRAITS TRADING COMPANY LIMITED

Head Office:

P.O. Box 700, OCEAN BUILDING, SINGAPORE

Works:

SINGAPORE & PENANG

**"The Straits Trading Co., Ltd."
Brand of Straits Tin**

THE BRITISH TIN SMELTING COMPANY, LIMITED

Works: LITHERLAND, LIVERPOOL

Smelters of Non-ferrous Residues and Scrap

London Agents:

W. E. MOULSDALE & CO., LTD.

2 Chantry House, Eccleston Street, London, S.W.1

Cables: Wemoulanco, London

Telephone: SLOane 7288/9

Consult

JOHN DALE

LIMITED

*about Aluminium Alloy
Gravity Die Castings*

DEPT. 1, LONDON COLNEY ST. ALBANS, HERTS.

Telephone: Bowmansgreen 2266

ALFRED HARRIS & Co. (Richmond) Ltd.

FOR ALL SCRAP METALS

Specialities:—

NICKEL MOLYBDENUM TUNGSTEN

MANOR PARK, RICHMOND, SURREY Phone: 0028

P. & W. MACLELLAN LTD.

129 TRONGATE, GLASGOW

NON-FERROUS METALS all classes
INGOT SCRAP MANUFACTURED

Letters: P.O. Box 95 Glasgow
Telegrams: Maclellan, Glasgow Telephone: Bell 3403 (20 lines)

CUPELS

MAGNESIA CUPELS and ASSAY MATERIAL
"MABOR" BRAND, as supplied to **MINTS,**
MINES and ASSAYERS throughout the World.

MABOR (1944) LIMITED

(Founded 1900)

THE PIONEERS OF MAGNESIA CUPELS

Registered Office: 310 Winchester House, London, E.C.2

Phone: London Wall 5089 Tel. Address. Maborlim, London

Agencies: SALEM, INDIA: MONTREAL, CANADA:
PERTH, W.A.

Supplies through Agents, the Trade, or direct.

ESSEX METALLURGICAL

(F. L. Jameson, A.M.I.M.M.)

Assayers and Samplers

On London Metal Exchange List of assayers and samplers

Laboratories and Offices:

13 Woodhouse Grove, London, E.12

Telephone: GRAngewood 4364

Grams: Assaycury, Forgeate, London Cables: Assaycury, London

The Mining Journal

1953

ANNUAL REVIEW NUMBER

Summarizes events and statistics of 1952

Orders for copies should be placed direct, or
through Newsagents.

Write: The Publisher, Mining Journal,
15 George Street, London, E.C.4.



LONDON . MONTREAL . TORONTO . VANCOUVER
SYDNEY . PERTH . MELBOURNE
CALCUTTA . BOMBAY . KARACHI
LAHORE . JOHANNESBURG . BULAWAYO

ASSOCIATES:

C. TENNANT, SONS & CO. OF NEW YORK, NEW YORK
VIVIAN YOUNGER & BOND LIMITED, LONDON AND
NIGERIA.

HENRY GARDNER & CO. LIMITED, LONDON, CANADA,
CYPRUS AND MALAYA.

The Group trades in and markets non-ferrous
ores, metals and minerals, many kinds of
produce, timber and other materials; it pro-
vides coal-washing plant, ventilation plant and
other specialist engineering equipment; and it
furnishes allied shipping, insurance, secretarial,
financial, technical and statistical services.

PRINCES HOUSE

93 GRESHAM STREET, LONDON, E.C.2

TELEGRAMS:

Brimetacor, London

CABLES:

Brimetacor, London

TELEPHONE:

MO.Narah 0055

Branches at BIRMINGHAM and SWANSEA

Telegrams:
NONFERMET
TELEX, LONDON

Cables:
NONFERMET
LONDON

Telephone:
MANSHION HOUSE 4521
(10 lines)

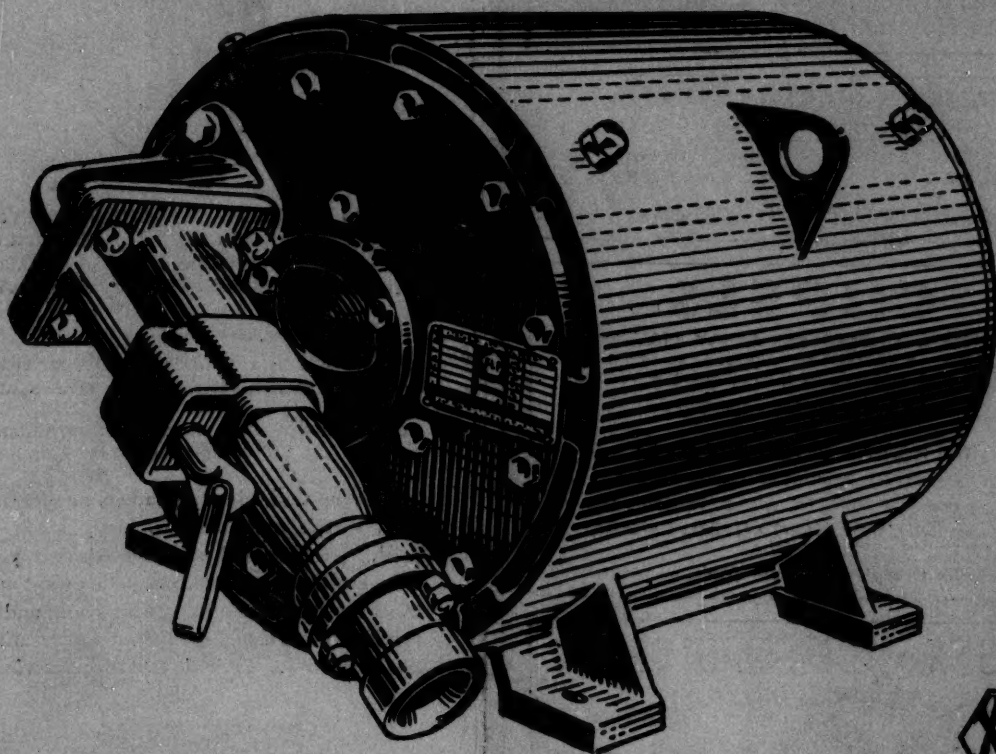
HENRY GARDNER & CO. LTD.

Non-Ferrous Metals
and Semi-Manufactures,
Ores, Minerals and Residues,
Rubber
Iron and Steel
and General Merchandise

2 METAL EXCHANGE BUILDINGS
LONDON, E.C.3

and at BIRMINGHAM, MANCHESTER and GLASGOW

Fully flameproof



For all purposes, in colliery or metalliferous mine, specify **METROVICK Flameproof Motors** designed to meet all the requirements of service in explosive atmospheres.

*The illustration shows a 25 hp. Metrovick
Totally-enclosed Fan-cooled Flameproof
Motor*

BUXTON



CERTIFIED

METROPOLITAN-VICKERS ELECTRICAL CO. LTD.

TRAFFORD PARK, MANCHESTER 17

Member of the A.E.I. group of companies

METROVICK

Flameproof Motors for all Mining Purposes